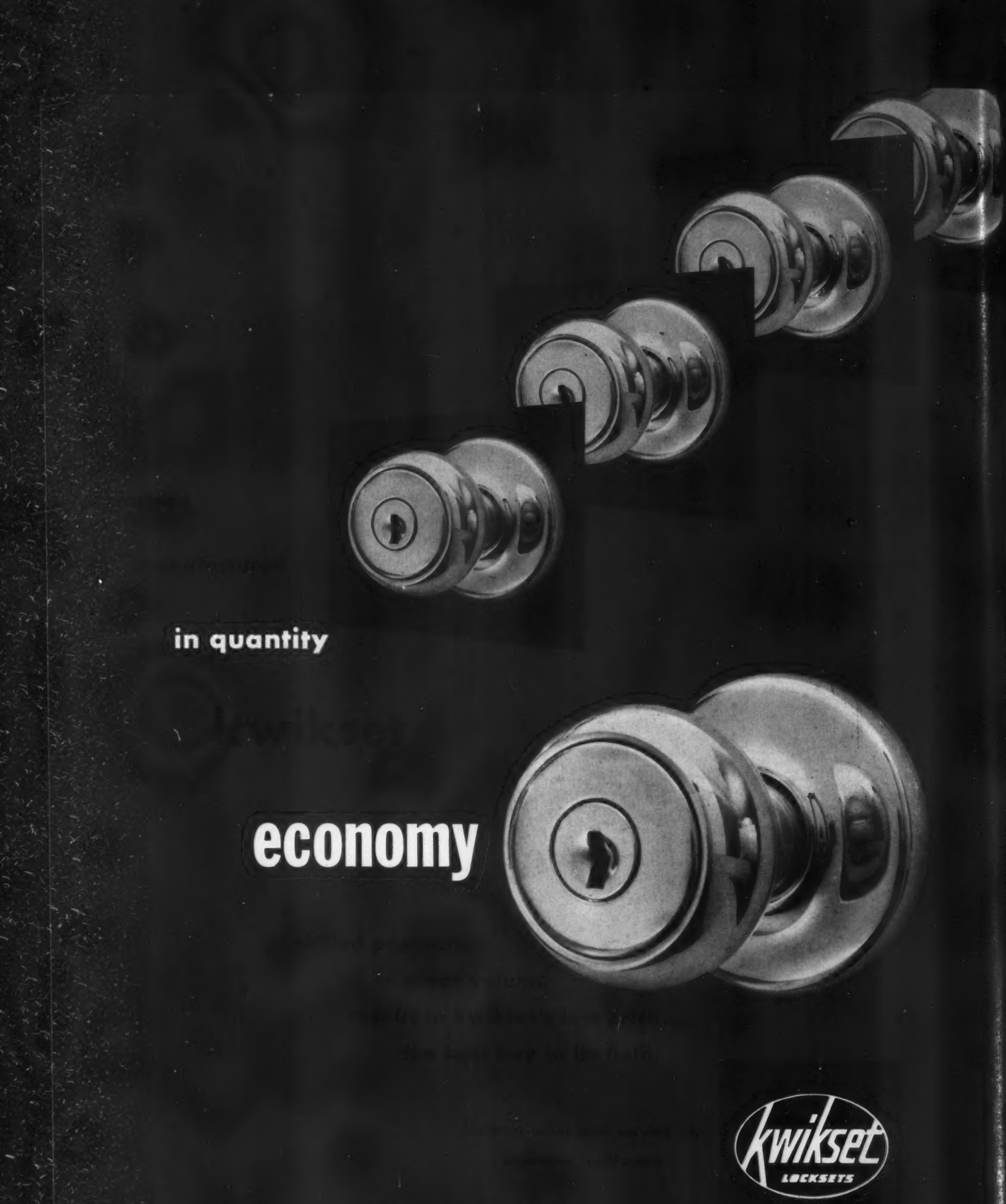
ARCHITECTURAL RECORD

SEPTEMBER 1951



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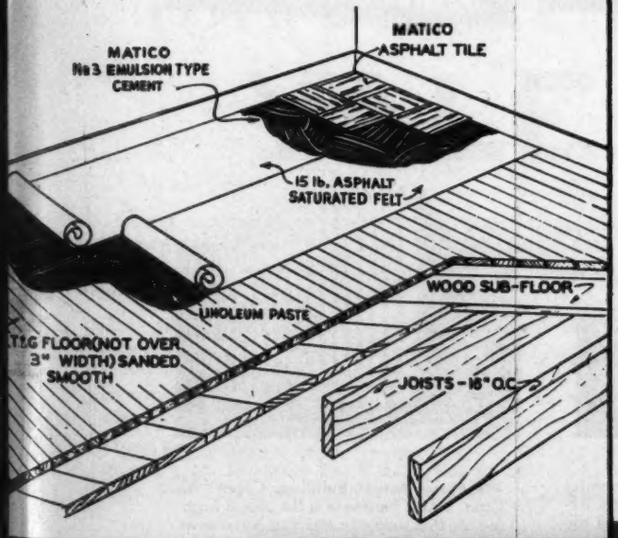

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New Crippled Children's Hospital

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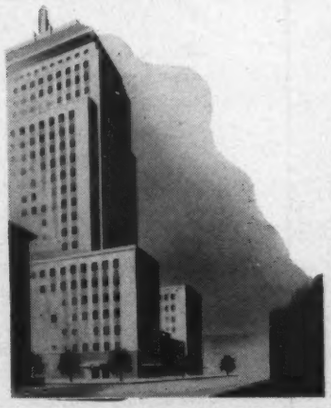

The John Hancock Building, beautiful new high-point on the Boston skyline. Excellent taste shows in every detail of the planning here. The hardware carries the name YALE, of course.

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The Farm Mutual Building, Columbus, Ohio. YALE hardware is the choice here, too. In this solid city block of impressive architecture, there'll be greater security at lower cost for years to come.

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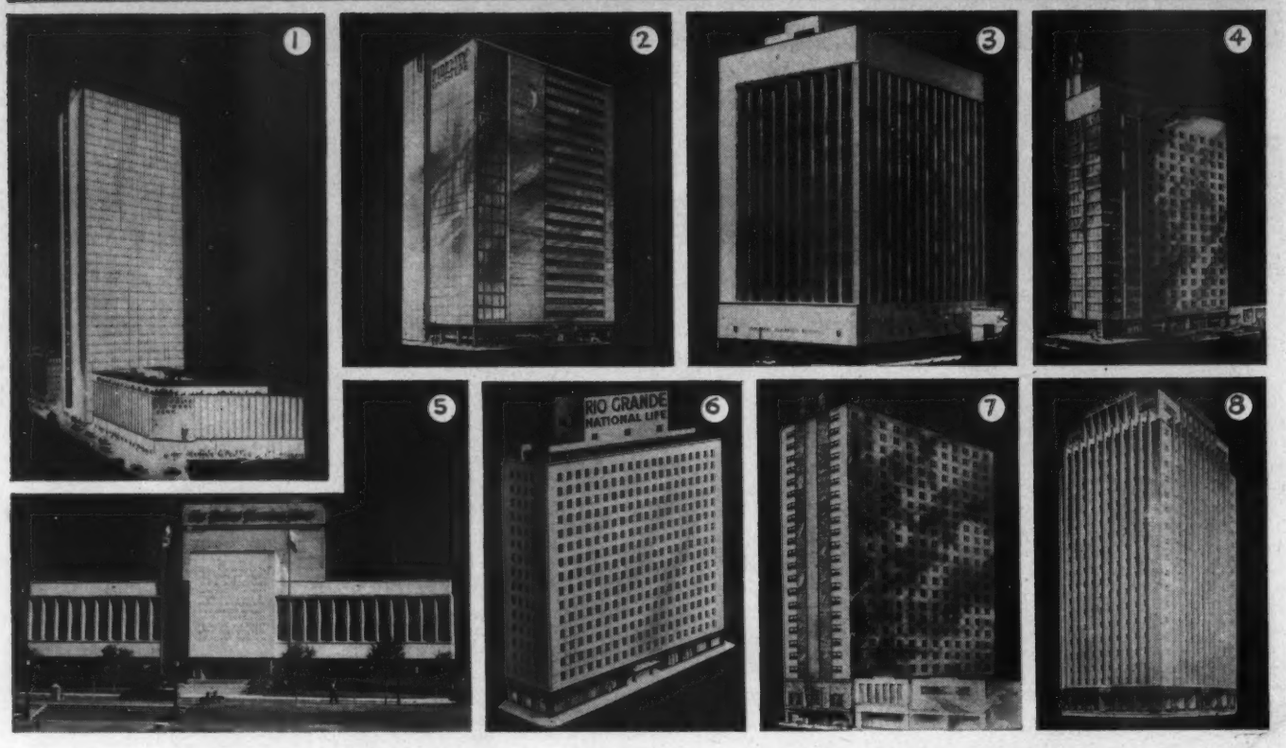
These newcomers push the DALLAS SKYLINE UP . . .



BYERS WROUGHT IRON PIPE holds maintenance DOWN!

Here's a lineup of eight newcomers to the Dallas Skyline that upholds the Texas reputation of doing things in a big way. The fact that the job is being done in the *best way* is suggested by the selective use of Byers Wrought Iron pipe in a variety of services. Here's the breakdown:

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2. FIDELITY UNION LIFE INSURANCE CO. BLDG.—Fire lines, air conditioning condenser and chilled water lines, and hot and cold plumbing lines over 2". Architect and Engineer: Wyatt C. Hedrick, Dallas.

3. EMPLOYERS INSURANCE BUILDING—Downspouts, steam returns, air conditioning condenser water lines, vents 2" and smaller. Architect and Engineer: George L. Dahl, Dallas.

4. CORRIGAN TOWER—Downspouts, fire lines, and condenser and chilled water lines 2" and larger in air conditioning system. Architect and Engineer: Wyatt C. Hedrick, Dallas.

5. DALLAS MORNING NEWS BUILDING—Steam returns, downspouts, vents 2" and smaller, condenser water lines in air conditioning system. Architect and Engineer: George L. Dahl, Dallas.

6. RIO GRANDE NATIONAL LIFE BUILDING—Air conditioning condenser water lines. Architects: Grayson Gill and George F. Harrell, Dallas. Engineers: Zumwalt and Vinther, Dallas.

7. ADOLPHUS HOTEL ADDITION—Fire lines, downspouts, and air conditioning condenser water lines. Architect and Engineer: Wyatt C. Hedrick, Dallas.

8. GIBRALTAR LIFE BUILDING—Steam returns, gas lines, downspouts. Architects and Engineers: Thomas, Jameson & Merrill, Dallas. Mechanical Engineers: Landauer, Guerrero and Shafer, Dallas.

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ARCHITECTURAL RECORD

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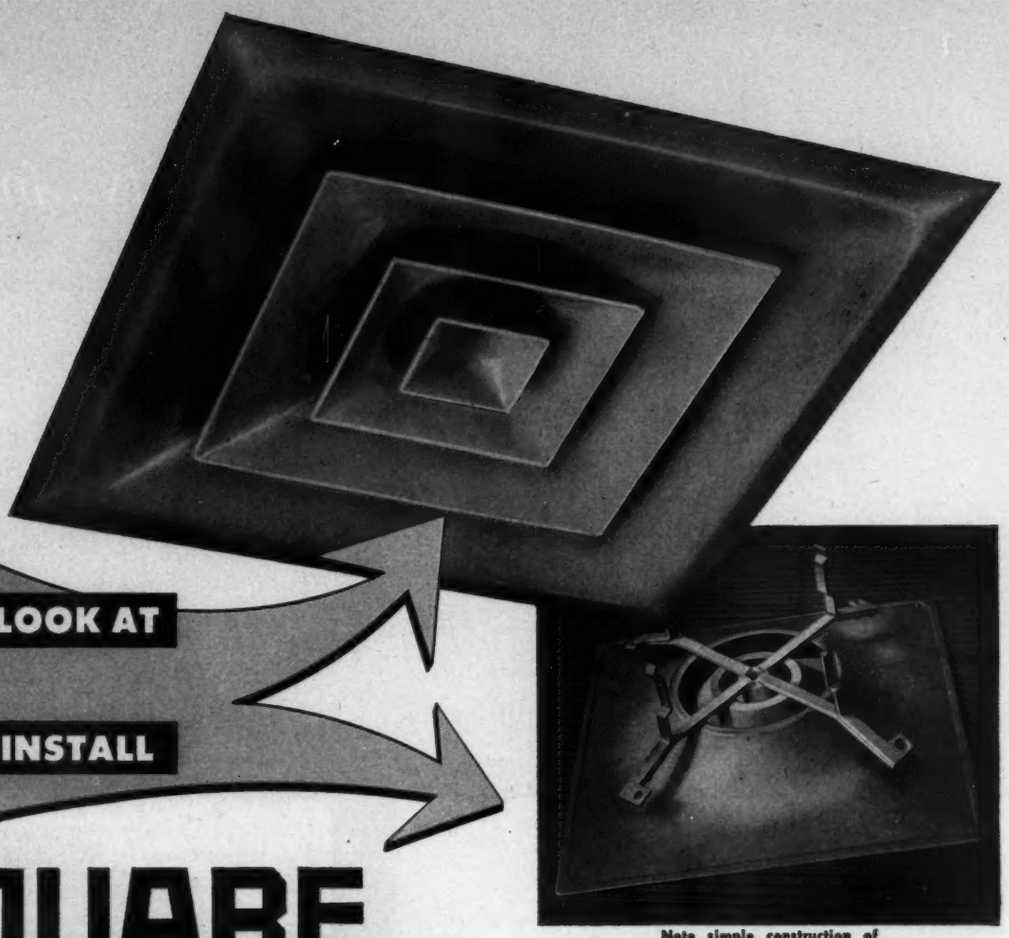

easy TO LOOK AT

easy TO INSTALL

SQUARE

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A glance at either the Type E Anemostat Air Diffuser which fits perfectly into acoustic tile ceiling construction, or the Type E-1 which is flanged for standard ceiling installations and you'll agree that these diffusers lead the beauty parade. Moreover, these outlets give you not only the benefits of Anemostat's superior performance but they are a *snap* to install because the inner assembly does just that—it *snaps* into place. No special tools are required and access to the furred space above the ceiling is unnecessary. Just *snap* out the inner assembly and you have the full neck opening to work in. Then fasten the outer member to the duct, *snap* on the equalizing deflector, *snap* the unit together and you're done. Anemostat Square Air Diffusers are easy to look at, easy to assemble and easy to install. They are easy to obtain as well. We have Anemostat Square Air Diffusers "on the shelf" in sizes to meet every need.

Note simple construction of inner assembly

Snap the Equalizing Deflector on the spider

Just snap the inner assembly into the outer member

AC-1371

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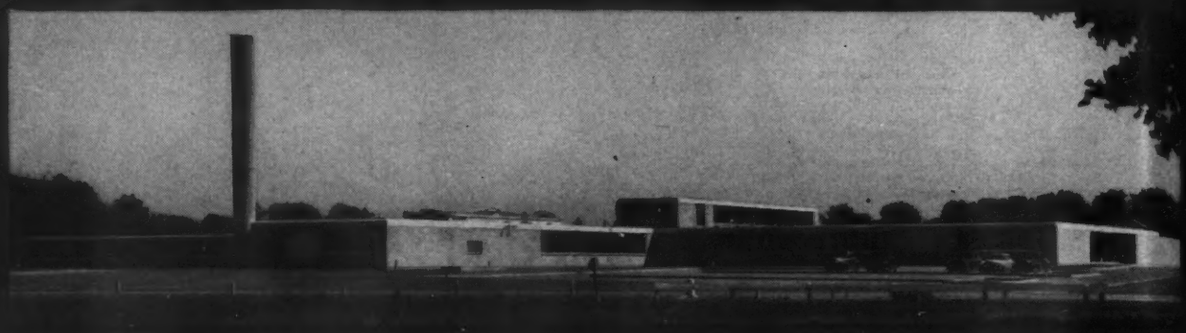
"No air conditioning system is better than its air distribution"

for design...for utility...for economy...



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aluminum windows

Yes, their combination of maintenance-free service, complete weather-tightness and handsome, modern appearance makes ADLAKE Aluminum Windows ideal for all commercial installations.

For ADLAKE Windows ultimately pay for themselves by eliminating all maintenance costs except routine washing—and they last as long as the building itself! What's more, only ADLAKE Windows offer the woven-pile weather stripping and patented serrated guides that assure minimum air infiltration and finger-tip control. And they keep their smart good looks and easy operation for life!

Find out how ADLAKE Windows will give better service, and save money for your clients! Drop a card to The Adams & Westlake Company, 1123 N. Michigan, Elkhart, Indiana. No obligation, of course.

Georgia Baptist Hospital, Atlanta, Georgia
Stevens and Wilkinson, Inc., Architects
Henry C. Beck Co., Contractor

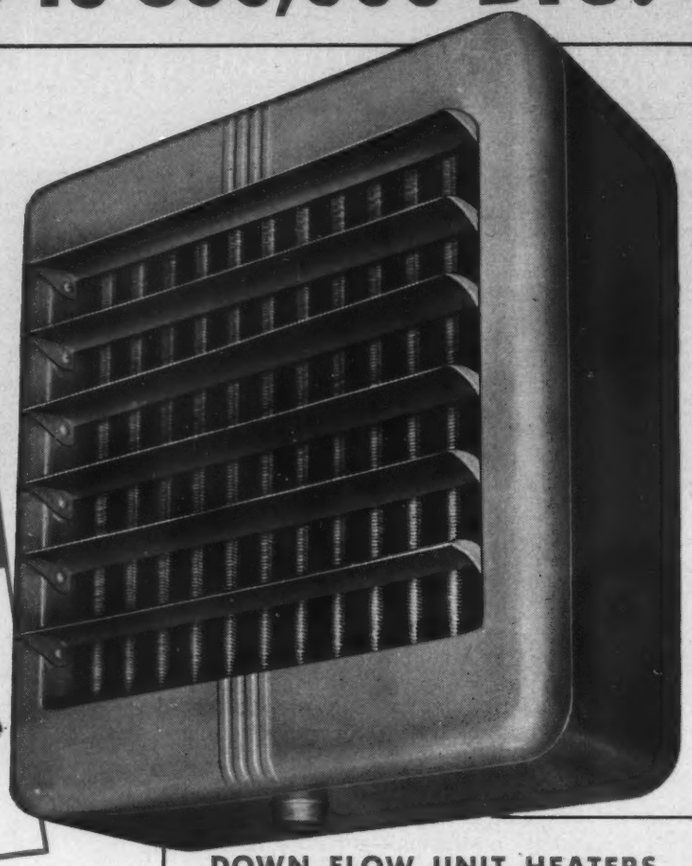
THE Adams & Westlake COMPANY

Established 1857—**ELKHART, INDIANA**—New York•Chicago

Adlake TRADE MARK

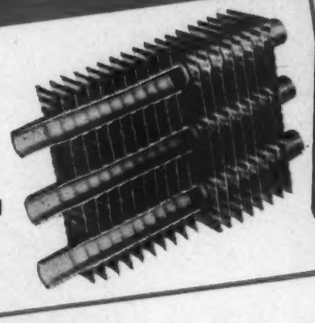
FROM 20,300 to 360,000 BTU!

Capacities to Match Your Requirements



McQuay HORIZONTAL UNIT HEATERS

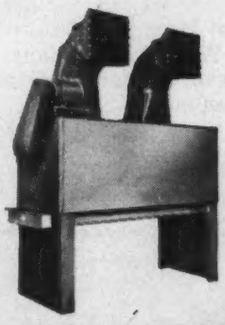
ANOTHER RIPPLE FIN COIL APPLICATION



Within the wide range of BTU capacities, you're sure to find McQuay Horizontal Unit Heaters to fit your needs. Every unit has the exclusive Ripple Fin Coil construction . . . with these advantages: more heat transfer surface, greater flexible strength, cleaner operation . . . flexible copper tube headers that accommodate unequal expansion and contraction. Tubes expanded into fins having wide, smooth collars, without the use of any low conductivity bonding agents, provide a permanent mechanical bond. The famous Ripple Fin Coil plus modern cabinet styling, quiet motor fan assembly and Test Code Ratings add up to maximum performance and trouble-free service. Get all the facts from the McQuay representative in your city; or write to McQuay, Inc., 1605 Broadway St. N.E., Minneapolis 13, Minn.

DOWN FLOW UNIT HEATERS

This McQuay "vertical" unit heater, suspended near the ceiling, utilizes the warm air in that area and distributes it down to the floor level. No wasted heat, no cold spots. Four types of draftless diffusers available.



BLOWER TYPE UNIT HEATERS

For effective heat distribution over large open areas. Available in 8 sizes . . . in suspended and floor models, with one and two row coils; capacities from 23,800 to 1,659,000 BTU per hour.

McQuay INC.

HEATING • AIR CONDITIONING • REFRIGERATION

THE RECORD REPORTS

BUILDING CONTROLS GET TOUGH AS DEFENSE HITS STRIDE

CMP Rules All Construction from October 1; Bleak Materials Outlook for 1951 Final Quarter Makes New Orders Stringent; "Self-Authorization" Provides Some Relief in Home Building

THE AUGUST 3 ACTIONS of the National Production Authority both tightened and relaxed controls on building, but the overall prospect was harsh. As the nation's defense program got into stride, NPA acted to regulate the use of the shrinking supplies of steel, copper and aluminum available for civilian uses and tied both commencement and continuation of construction to the availability and use of the controlled materials. Building that uses no steel, copper or aluminum, or uses less than specified amounts in any quarter, is now in effect free to go ahead — if it can find materials. But most builders outside the home building field will need NPA allotments.

The NPA's claimant agencies already have their fourth quarter allotments and will develop their own criteria for processing applications to them under CMP. NPA itself has announced criteria for processing the kinds of construction for which application is made directly to one of its divisions and has established four classes of priority: defense construction — steel, aluminum and aircraft expansion facilities construction; construction essential to public health, safety or welfare and industrial construction and plant expansion which had been commenced before August 3 following issuance of certificates of necessity; construction required as a result of disaster or by community need and industrial construction and plant expansion commenced after August 3 following issuance of certificates of necessity; all other industrial construction.

NPA officials have repeatedly warned that fourth-quarter supplies of controlled materials will be so limited as to menace even such favored categories as industrial construction. As for general commercial construction, NPA Assistant General Counsel Richardson Bronson said last month that quantities of controlled materials available for allotment by NPA's Construction Controls Division in the fourth quarter are "hopelessly short" and "the number of new commercial construction projects that will receive authorized construction schedules and related allotments for fourth quarter will be few, if any."

Revocation of M-4, the original basic construction order, and issuance of M-4A set the stage for the new program. M-4A prohibits commencement of any types of construction requiring more than two tons of carbon steel, 200 pounds of copper or copper-base alloy, or any quantities at all of aluminum, alloy steel or stainless steel without authorization and an allotment of materials from NPA or its appropriate claimant agency. One of the toughest provisions prohibits purchase of materials over and above specifically authorized amounts, once an allotment is given.

Direction 1 to CMP Regulation 6 sets up the self-authorization procedure, effective October 1, for projects where the total materials requirements do not exceed specified quantities listed in Schedule 1 — for industrial plants, 25 tons of steel, 2000 pounds of copper and 1000 pounds of aluminum; for residential structures of various types, up to three and a half tons of steel, 575 pounds of copper and no aluminum; for buildings in the old M-4 "amusement" category, none; for multi-unit residential structures, none; for all others, two tons of steel, 200 pounds of copper and no aluminum. All unrestricted construction under this schedule is denied structural steel, alloy steel and stainless steel and aluminum, except for relatively small quantities for industrial plants and some commercial projects.

(Continued on page 256)

MICHIGAN ARCHITECTS MEET

Board of Directors, Michigan Society of Architects, had a session during the annual summer meeting of the Society, held August 2–5 at the Grand Hotel, Mackinac Island. Left to right: Charles B. McGrew, Treasurer John O. Blair, Executive Secretary Talmadge C. Hughes, F.A.I.A., President Leo M. Bauer, Vice President Adrian N. Langius, Conference Chairman Carl J. Rudine, Vice President James A. Spence, Alden B. Dow. Speaker, at end of table, is John N. Richards, Great Lakes regional director. A.I.A. President Glenn Stanton was main speaker at the meeting, which had an attendance of 199, representing the three A.I.A. chapters in Michigan and the Society

HHFA CONTRACTS WITH PRIVATE INDUSTRY FOR APARTMENT

Utmost Practicality, Freedom from Restrictive Practices, Characterize Mandate to Explore Materials, Equipment and Techniques; Aim Is Improved Multi-Story Housing at Reduced Cost

TOWARD THE END OF MAY this year Illinois Institute of Technology signed a contract with the Housing and Home Finance Agency which can result in the first substantial advances in apartment house design since the roaring Twenties. The work is to be carried out by the Department of Civil Engineering of Illinois Tech; and, under subcontract, by Howard T. Fisher & Associates. As reported in ARCHITECTURAL RECORD for August 1951 (page 13), Elmer I. Fiesenheiser, associate professor of civil engineering, will direct the Institute's work. Robert L. Davison, research director of the Fisher organization, will be in charge of their share of the work.

For Lower Cost

The terms of the contract promise — indeed they *require* — tangible results. Furthermore, they provide freedom from the arbitrary limitations which have hampered previous investigations. Simply stated, the objective is to show that improved multi-story, multi-family buildings can be built at costs lower than those current. Both the mandates, improved quality and lower costs, are given due weight. An immediate objective is development of construction methods to cut costs by saving manpower and critical materials needed in the nation's defense program; attractive in today's situation, this is entirely compatible with the long-range purposes of finding means for architects and builders to produce more, better, and cheaper housing.

Industry Participation

The contract makes specific provisions for private industry to participate, by supplying technical and economic data on products and encouraging additional industrial research when necessary. New developments in construction methods, both industrial and commercial, are to be analyzed and evaluated and, if proved to contribute to the total objective, are to be incorporated in the project. Recent design developments are to be similarly handled. Careful consideration of these provisions reveals an intent to utilize whatever the research group finds appropriate from manufacturers, from builders, and from the design professions.

Much stress is laid on practicality. No "advanced" product, construction method or design technique will be acceptable at face value; all claims must be substantiated to the research team's satisfaction.

One important industry contribution is already announced: Structural Clay Products Research Foundation, Inc., which has been most actively pursuing its own, parallel research program, is cooperating fully. Participation of other associations and individual firms is expected.

For a Specific Building

Practicality is also stressed by the requirement that the results of all research shall be keyed to the specific needs of the Chicago Housing Authority, which has proposed correlating the results into the design of a building or buildings for one of its developments. It is also required that the principles and practices evolved shall be *suitable for construction generally by both private builders and other local housing authorities*. In other words, Illinois Tech and the Fisher organization are sticking their collective neck out twice. Not only must they produce results sufficiently practical to produce a building; they must also get results applicable in both public and private construction. Despite the short term of the initial contract — one year — and the small initial financial guarantee — $50,000, with freedom to accept private grants of funds — the research organizations are confident of reaching their goals.

No Holds Barred

Every essential element of structure is to be investigated, from footings through roof, and including stairwells, fenestration, etc. While there is to be no attempt to develop new materials (materials and ideas already extant are to be employed), the contract contains a direct statement to the effect that *present code requirements or other restrictive practices shall not be permitted to limit the investigation*. Sound engineering necessities, from the point of view of normal safety, are to be the structural criteria; an outdated, or over-cautious, or capricious code restriction cannot be applied.

In general, the objective in structural design is reduction of dead load, because, as every neophyte in this field knows, cost of construction can be measured almost as accurately in pounds avoirdupois as in money. Some ways of lightening the building are suggested in the contract as examples; for instance, use of bearing partitions rather than internal columns to support the structure; or a structural skeleton outside lightweight curtain walls, which also permits continuous interior surfaces.

In relation to building equipment, heating, ventilating, wiring, plumbing, elevators, kitchen equipment, incinerators, etc., are to be considered. Use, treatment and maintenance of the building, it is stated, likewise make it mandatory to take into consideration interior and exterior finishes, occupancy requirements, storage facilities, acoustics and other factors.

What About Space?

Although the contract thus spells out all the practical considerations of structure and equipment, of construction techniques and dollars involved, and although it does state specifically that maximum advantage should be taken of current knowledge in the use of space, there is nowhere in it a definition of or a suggestion as to avenues for exploring the kind, amount, or disposition of space. To an extent one can understand this omission. Preconceived notions, probably more dog-

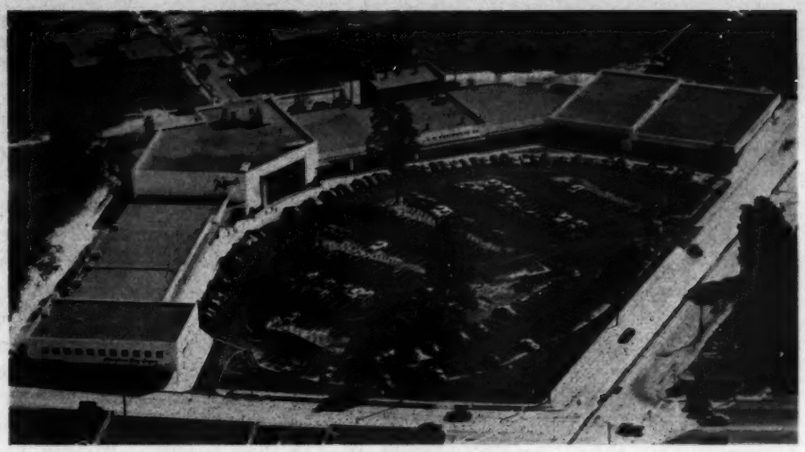
BUILDING RESEARCH

gedly maintained than any comparable set of non-political ideas, exist about the nature of apartment space. The apartment house field has benefited only superficially from advances of the kind which characterize, for instance, modern school buildings. The reasons need no rehearsing; they have been accepted tacitly for years. More important than the reasons is the effect of such a standpat attitude. While materials and techniques in this field have stood still, costs have pyramided. To get rentable space — *any* kind of space — at some attainable rent — how much will the tenant pay? — has been the problem, and little by little the amount of space has dwindled. It is to be hoped that, as a means to attaining the total objective, *better* housing at lower cost, some of the savings anticipated from rationalizing structure and equipment can be put back into the building in the form of more and better organized space.

In connection with space and equipment studies for the apartment project it is anticipated that many of the modular principles developed by Konrad Wachsman of the Department of Design of Illinois Institute of Technology (working on a $25,000 grant from HHFA) will be applied.

If the amenities are to be improved, balance must be struck in other directions as well. As the mass of a building is lightened, noise becomes a design factor since lightness indicates higher noise transmission. Heat transmission, condensation, thermal expansion and contraction are other factors directly affected by choice of materials and techniques. Self-evidently, many of these are currently engaging the researchers' joint attention, along with such imponderables as privacy, efficiency of housekeeping, and the like.

ARCHITECTURAL RECORD has a deep interest in the apartment house segment of the building industry, and will report regularly the progress of this first comprehensive attack on its problems.



J. Alex Langley Photo

Lathrop Douglass was architect for the recently completed North Shore Mart, seven-acre suburban shopping center in Great Neck, L. I. Main unit is the first metropolitan New York suburban branch store of John Wanamaker. Other tenants include Miller's, F. W. Woolworth, Grand Union, Miles Shoes and Pennsylvania Drug Company. Sol G. Atlas is the owner. Landscape architect for the mart was W. Lee Moore

URGE PRIVATE OWNERSHIP AS POLICY IN AEC TOWNS

Self-Government Also Needed, Advisory Panel Reports; Basis Is Morale

PRIVATE OWNERSHIP of homes and business property and self-government have been recommended for the government towns of Oak Ridge, Tenn., and Richland, Wash.

The recommendations are contained in the report of the Panel on Community Operations appointed a year ago to advise the Atomic Energy Commission on community policy.

Improved "contentment and morale" of workers, "important factors in the successful achievement of the main AEC missions," are cited as a major reason for both private ownership and self-government. Such factors as possible economy for the federal government, saving of AEC executive effort for the main job and better relations with workers if the "company town" situation is ended also are noted as bases for the recommendations of the panel.

The report admits the existence of possible obstacles to such a program, and lists early fiscal difficulties and reluctance of present residents as chief among them. Cooperation of the residents is described as essential for success.

The AEC, which will get a separate report on the third of its communities, Los Alamos, N. M., is already taking steps to aid Oak Ridge and Richland residents in their consideration of the report.

These moves are under way:

1. To aid residents in judging what action each would want to take on purchase of property, the Commission will secure and publish as quickly as possible competent appraisals of the fair market value of properties which the panel recommends be offered for sale to holders of priorities at fixed prices related to appraised values.

2. After time has been given for study of the appraisals and related facts, the Commission will evaluate the extent of interest on the part of residents in purchasing property under the terms and the prices resulting from the panel's recommendations.

3. To determine the likelihood of incorporation being sought and supported by residents, the Commission will develop a means of polling residents for their views regarding the incorporation measures proposed by the panel.

The AEC has emphasized that the reaction of the residents to the proposed plan will have "considerable bearing" on the Commission's specific action on the recommendations. AEC is prepared to support Federal legislation needed to achieve a workable plan desired by both residents and the Commission.

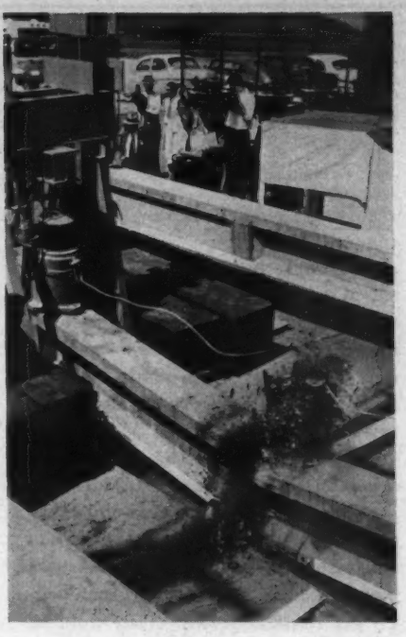
FIRST CONFERENCE ON PRESTRESSED CONCRETE BRINGS MORE THAN 600 TO SESSIONS AT M.I.T.

Present Method Accepted as Safe Economy in Steel and Dollars, But Need for Refinements Is Reiterated at Crowded Meeting

MORE THAN 600 REGISTRATIONS for the first U. S. Conference on Prestressed Concrete August 14–16 made it the biggest summer meeting ever sponsored by the Massachusetts Institute of Technology. The conference drew architects, engineers, builders and educators from all parts of this country, from Canada, Venezuela, Cuba and South Africa. Government and the military were well represented. Some advance indication of the extent and scope of interest in the subject had been given in the list of co-sponsors: American Concrete Institute, American Institute of Architects, American Railway Engineering Association, American Society of Civil Engineers, Associated General Contractors of America and Portland Cement Association.

Consensus of the participants in a crowded program of speeches, demonstrations and discussions was that prestressing can safely be used now; and this aspect of the discussions was bulwarked by descriptions of the applications successfully completed or under way by a number of the speakers. These included Curzon Dobell, vice president of Preload Enterprises, Inc., New York City — tanks; J. G. Henderson, American Concrete Pipe Association, Chicago — pipes; S. S. Baxter, acting chief engineer and M. Barofsky, assistant chief engineer, Bureau of Engineering Surveys and Zoning, Department of Public Works, Philadelphia — Walnut Lane Bridge, Philadelphia; R. H. Bryan, Bryan and Dozier, consulting engineers, Nashville, Tenn. — supermarkets, stadium, several bridges; and P. Blair Jr., P. F. Blair & Sons Company, Tulsa, Okla. — school, commercial buildings.

There appeared to be no controversy on design theory, though there was general recognition that refinements will come. The special role during the present critical steel shortage of this method that is expected to save around 50 per cent of the steel required in ordinary concrete construction was recognized, and there was also testimony that the method can cut costs.

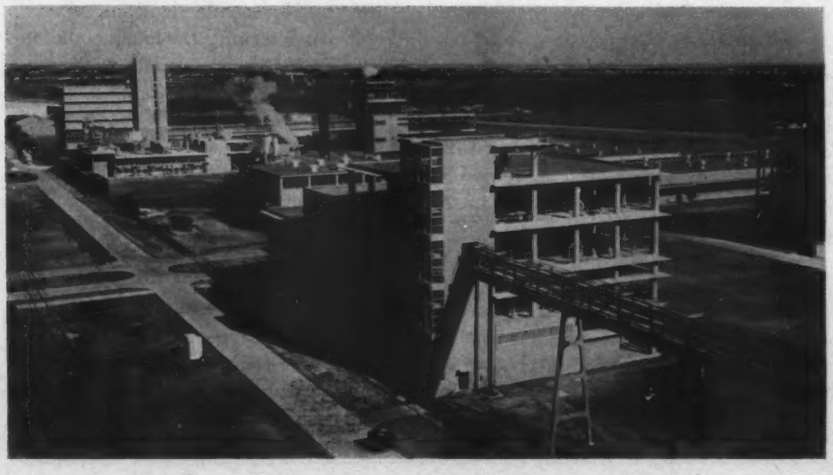


The Austin Company reported to the conference on tests on 40-ft prestressed concrete beams designed on the Freyssinet system. Collapse (above) came under a load (over 117,000 lb) nearly four times the design load; deflection at the break point was more than 4 in. Load was applied at two points by hydraulic jacks

WALLS ADDED IN ONE CORN PRODUCTS BUILDING

Two Years in "Wall-less" Plant Bring Only One Major Change: One of Ten Buildings Enclosed; Some Windbreakers Considered

THE "WALL-LESS" CONSTRUCTION of the famous Bluebonnet Plant of the Corn Products Refining Company at Corpus Christi, Tex. (ARCHITECTURAL RECORD, November 1949, pages 91–108) has stood the test of two years' operation with only one major change. The photographs show (left) the one building of ten which has required enclosure and (below) the entire plant as it now is.



Elimination of walls wherever processing requirements made it possible was established in the basic design by the wish of the engineers and builders, The H. K. Ferguson Company, and the Corn Products Engineering Department to make the most of the warm Texas climate. Since this kind of plant had never before been operated in unenclosed buildings, the designers took the precaution of planning most buildings to accommodate walls if they later proved necessary.

The one building which has been enclosed is known as the Sugar House, and walls were added to give better temperature control for crystallization.

One other modification which was taken into consideration in the original design of the plant is being studied by the Corn Products Engineering Department. Shutter- or jalousie-type windbreakers may be added on some sections of north elevations of three buildings to give workers more protection from weather during the short "winter."

DON'T HEAT THE GROUND UNDER THE BUILDING!

WHERE RADIANT HEATING operates upward from an uninsulated GROUND FLOOR the loss of heat downwards by straight conduction through solids is substantial.

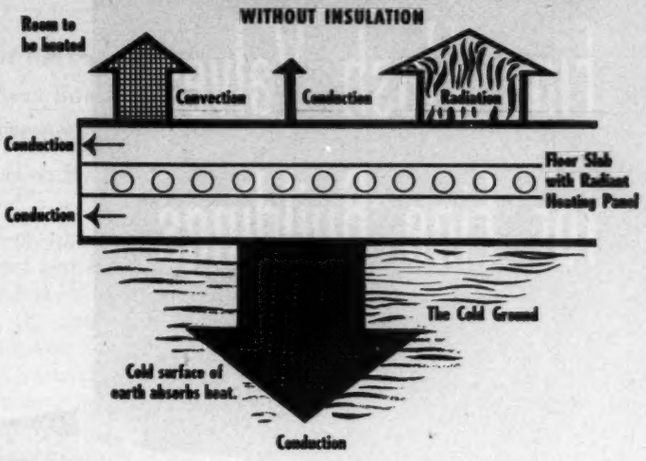
Heat by conduction follows the law that warmth flows to cold, never the reverse; in any direction, down and sideways, as well as up.

Since the ground is colder and more massive than the space above the floor, there will be considerable flow of heat to the earth below as well as the floor above.

The GUIDE of the Amer. Society of Heating and Ventilating Engineers says, *"When the heating pipes are imbedded in a concrete floor slab a portion of the heat emitted by the pipes will flow upward into the space to be heated, and the remainder will flow downward into the ground.*

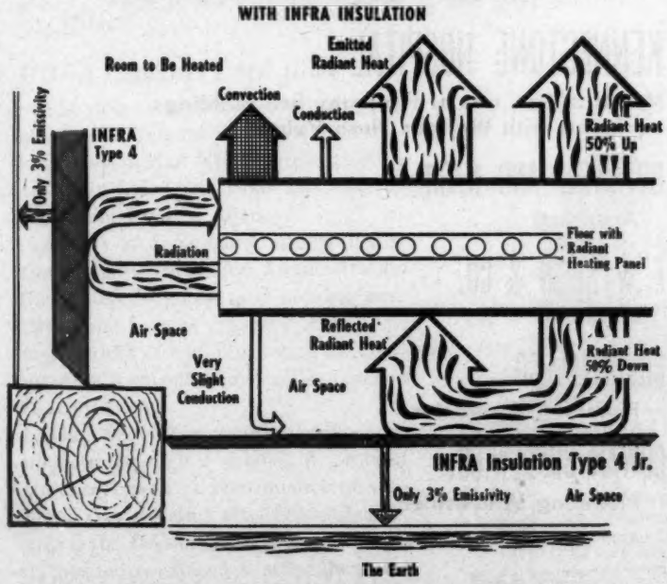
"When the heating pipes are placed below the concrete floor slab instead of being imbedded in the slab, a larger portion of the heat will flow into the ground, and a smaller portion into the space to be heated."

Heat Flow from Floor Radiant Heating Panel
WITHOUT INSULATION



COLD AREA

Heat Flow from Floor Radiant Heating Panel
WITH INFRA INSULATION



INFRA THERMAL FACTORS, DOWNHEAT FLOW

Type 6	C.044 R22.72 equals 9" DRY Rockwool
Type 4	C.065 R15.38 equals 6" DRY Rockwool
Type 4 Jr.*	C.097 R10.30 equals 4 1/5" DRY Rockwool

*In 1" Space

INFRA INSULATION, INC.
10 Murray Street New York, N. Y.

The National Research Council of Canada recently conducted numerous tests and found that without insulation under ground floor radiant panels, heat flow *into* the earth was preponderant; in considerable amounts to 6 ft. underground, and extending in lesser amounts to 12 ft.

By installing multiple accordion aluminum with assured air spaces, under the heating panel, MOST of the dissipated heat would be saved for radiant heating, because 95% of CONDUCTION to the earth would be stopped by the air spaces, and RADIATION loss would be only 3%. There is NO CONVECTION downwards.

Six-space and 4 space multiple accordion aluminum have C factors for downheat flow of .044 and .065 respectively, equal to 9" and 6" laboratory dry rockwool. They are non-condensation forming, of zero vapor permeability.

Insulation in relation to radiant heating, with a new technique for floor slabs, is discussed in Infra's new 1951 "Simplified Physics of Vapor and Thermal Insulation," a complete and concise manual mailed free on request.

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10 Murray Street, New York, N. Y. Dept. [R9]
Please send FREE "Simplified Physics of Vapor and Thermal Insulation."

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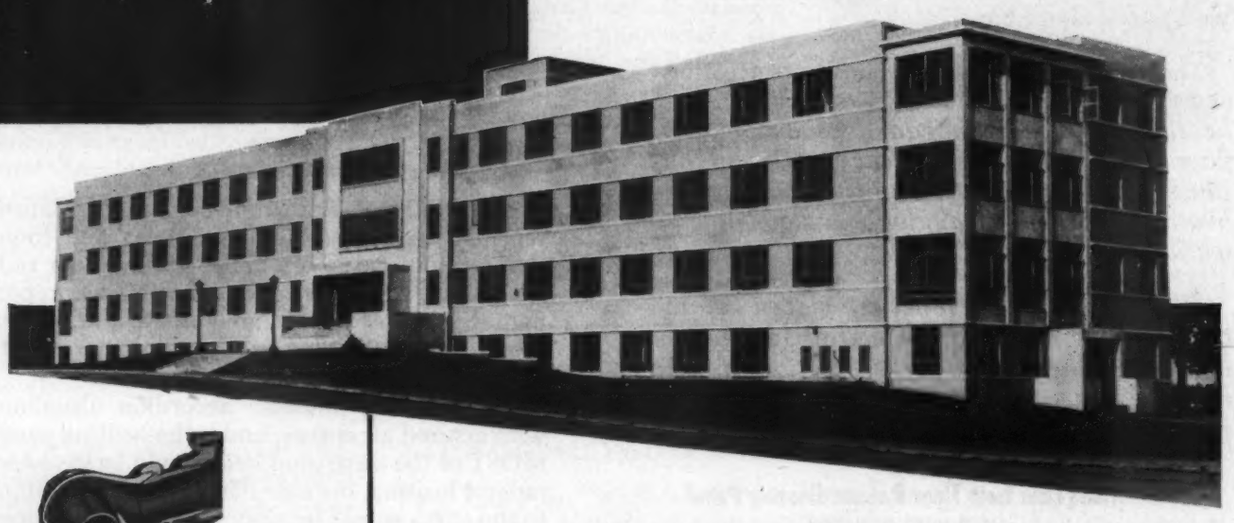
Fine Flush Valves for Fine Buildings

For complete information on Watrous Flush Valves write for catalog No. 449.



Among Watrous Fine Features

Silence without Penalty

Watrous Silent-Action Flush Valves eliminate unwanted noise by employing corrugated surfaces to arrest water surge and eliminate turbulence. In contrast with the usual method of using shot or screens, Watrous Silent-Action retains its high efficiency without danger of clogging—stays silent without requiring frequent cleaning, replacement or adjustment.

KENNESTONE HOSPITAL

Marietta, Ga., one of the many fine buildings equipped with Watrous Flush Valves.

BOTHWELL AND NASH
Architect

E. W. KLEIN & CO.
Engineer

SOCKWELL CO.
Plumbing Contractor

COWAN SUPPLY CO.
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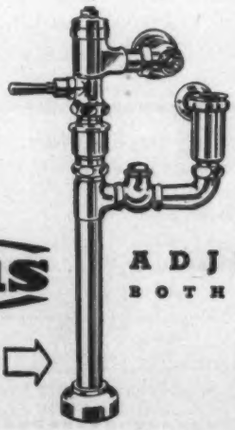


Watrous

This Watrous Flush Valve Combination for hospitals is especially adapted for bedpan cleansers. Eliminates need for special type bowls.

ADJUSTABLE FLUSH VALVES
BOTH DIAPHRAGM AND PISTON TYPES

THE IMPERIAL BRASS MANUFACTURING COMPANY
1240 W. Harrison St. • Chicago 7, Ill.

NEWS FROM WASHINGTON *by Ernest Mickel*

HHFA Explains CMP Role; Public Housing Feud Revived in Tilt Over June Starts; B.R.A.B. Work on DPA Furthers Both Design Standards and Materials Conservation; New Controversy Flares Over Size of VA's Hospital Program; HHFA Approves Model Code

THERE WAS ACTION last month on many things that had been hanging fire. Prime news, of course, was the issuance of the National Production Authority's new building regulations (see page 11). Fourth quarter allotments of critical materials were announced. The bitterly debated Defense Production Act became law — continuing existing economic authority of the government, with one or two slight additions and many restrictions (especially in the power of the Office of Price Stabilization to set price ceilings and of the Federal Reserve Board to control consumer credit). Control over materials was not affected.

Most cheering note of the month for the construction industry was the passage by the House of Representatives of the biggest ($5.7 billion) construction authorization ever before Congress. The bill — presented by the military as the basic minimum for defense — got top priority when it went to the lagging Senate.

HHFA Explains CMP Role

The rash of explanations which came out in the general confusion that followed issuance of NPA's latest building orders included one from the Housing and Home Finance Agency.

HHFA is a claimant agency before the Defense Production Administration for materials going into housing construction. In this capacity it has the responsibility for administering the allotment of controlled materials assigned to it by DPA.

The new construction orders announced by NPA August 3 prohibit commencement or continuance of residential construction after September 30, unless the builder or owner receives an authorized construction schedule and a related allotment of controlled materials — steel, copper and aluminum — or unless the construction requires no more than the quantities of controlled materials obtainable by self-authorization.

This was explained by HHFA personnel, who said that in the interim period, before September 30, builders can without special permission start or continue construction of one- to four-family houses if the quantity of controlled items (including Class A products) needed after September 30 to complete the project does not exceed the amounts obtainable under self-authorization.

"While there are no restrictions on the quantity of controlled materials which may be used prior to October 1 in one- to four-family homes, the use restrictions of M-4A are effective immediately," the agency stated. These include prohibitions against the use of any aluminum whatsoever, and against certain uses of copper set out in the orders.

Said HHFA:

During the interim period, builders of multi-unit residential structures need not obtain authorization to begin or continue construction already started if the total controlled material required for each structure does not exceed 25 tons of carbon steel and 2000 pounds of copper and copper-base alloys, and if no aluminum, alloy or stainless steel is required. As in the case of one- to four-family construction, the use restrictions of M-4A are effective immediately.

(*Continued on page 18*)

President Sets Policy of Dispersal for New Plants

All government departments and agencies have been ordered by President Truman to get behind the plant dispersal policy worked out by the National Security Resources Board, the Office of Defense Mobilization, and the Munitions Board.

The plan, intended as a protection for vital industrial plants in case of atomic attack, would require new plants to be located 10 to 20 miles from present facilities. There is no suggestion that present factories be moved.

The President ordered federal agencies to make "satisfactory standards of dispersal" part of the criteria for tax aid and materials allocation in new industrial construction and choosing sites for U. S. facilities.

—Drawn for the RECORD by Alan Dunn

"But gosh, we just moved out here from the city to escape possible A-bomb destruction!"

THE RECORD REPORTS

WASHINGTON

(*Continued from page 17*)

Starting October 1, all residential construction must be specifically authorized, either by self-authorization as in the case of the smaller housing projects, or by authorized construction schedules and related allotments of materials, as in the case of all multi-unit structures, defined as those containing more than four family units.

N.A.H.B. Cries Socialism

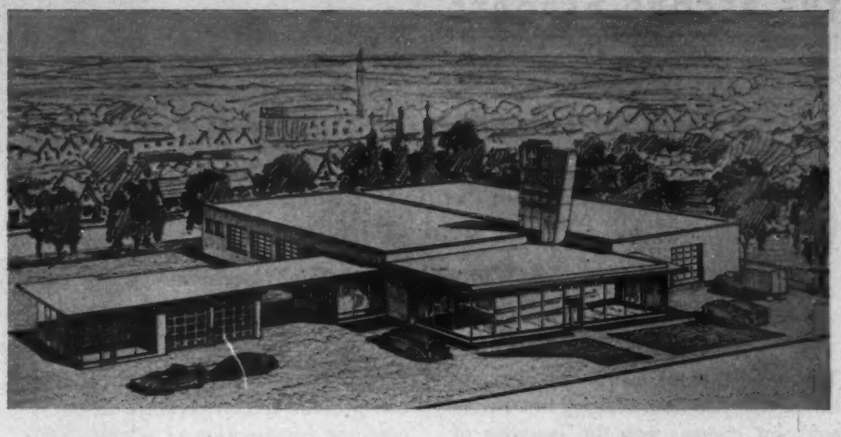
A new contest in the old public housing feud developed with the announcement by the Bureau of Labor Statistics that of 130,000 new non-farm dwelling units started in June, 42,300 were of the public housing variety. This drew from the National Association of Home Builders their familiar cry that this evidence pointed toward a dangerous socialistic trend.

The following recapitulation of housing volume, first half of 1951 compared with first half of 1950, was given:

	Private	Public	'51 Total	'50 Total
January	82,200	3,700	85,900	78,700
February	76,500	4,100	80,600	82,900
March	90,100	3,700	93,800	117,300
April	84,500	3,500	88,000	133,400
May	93,800	3,200	97,000	149,100
Five Months	426,600	17,900	444,500	561,400
June	87,700	42,300	130,000	144,300
Six Months	514,300	60,200	574,500	705,700

The private builders indicated they looked upon the 42,300 figure for June with some doubt. This would be more than 10 times the number of public housing units started in any one month for a long period of time. The BLS had explained in its release on the subject that the total was large because it represented an effort on the part of local public housing authorities to firm up their programs before the end of the fiscal year on June 30. A heavy volume of public housing thus was represented. This did not mean that all of it would get under way immediately; on the contrary, BLS indicated that much of the start volume shown might not get going for many months. But home contractors took the view that this was a trick figure to put local housing authorities, and the whole public housing program, in the clear with as many "technical starts"

(*Continued on page 20*)



Gordon S. Adamson of Toronto was architect for this automobile sales and service building at North York, Ont. Showroom, repair shop and service station are provided in 24,000 sq ft of floor area. Construction is concrete block and long span steel joists, built-up roof, floors concrete slab on earth, sash aluminum and steel

NEWS FROM CANADA *by John Caulfield Smith*

CBC Opens Radio Center In Remodeled Ford Hotel

Opening of the Canadian Broadcasting Corporation's 12-story Radio-Canada Building, remodeled from the former Ford Hotel in Montreal, has given Canada its newest and largest radio center.

The 26 studios, the master control room and the recording room have been planned as an integrated system, with the master control room and recording room on the second floor at the hub of studio activities.

Each studio was suspended on springs or rubber within the framework of the walls. The inner studio walls, ceilings and floors are specially treated to preserve the required acoustics within the studios; and the outer walls are similarly treated to isolate the studio from outside noises. Within the studios themselves, all acoustic tile has a different treatment on its reverse side, so that by merely reversing a few tiles within the studio any one of a dozen acoustical results can be achieved. Acoustics of studios were tested during construction with specially modified radar equipment.

Eleven of the studios are on the second floor, six on the mezzanine and nine on the ground floor. In a five-story "television wing," three more studios are now being constructed for future TV programs.

The master control room, kept compact in design through use of small amplifiers and miniature tubes, carries a heavier program load than any other in North America. It is designed to handle five transmitters, eight outgoing networks, seven incoming networks and the output from the building's 26 studios. Twenty-seven individual programs can be routed simultaneously.

To the left of the master control room is the completely soundproofed recording room, where 20,000 recordings of CBC programs for delayed broadcast are made annually. It can accommodate 12 disk recorders and eight tape recorders. Each recorder has its own control panel, clock and overhead speaker (isolated from other speakers by plastic partitions).

The Radio-Canada Building originates programs 18 hours a day; within Canada itself supplies almost 6000 hours of network broadcasting each year.

(*Continued on page 248*)

Aluminum Company of Canada, Ltd.

Main entrance of new Radio Canada Building has aluminum canopy and front

Commemorating our 60th Anniversary

THE POWERS REGULATOR COMPANY

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(a55)

WASHINGTON (*Cont. from p. 18*)

as possible before Congress took final action to emasculate the program. And Congress gave signs of such a trend.

The measure passed by the House earlier in the year, curtailing the fiscal 1952 program to 5000 public housing units instead of the 75,000 called for in the President's budget, was side-stepped in conference committee with conferees agreeing on the 50,000 figure adopted by the Senate. When the independent offices appropriations bill, in which the public housing program was encompassed, came back to the House from conference, however, members refused to accept the 50,000 figure which in a sense ignored their important debate on the subject in April. The measure went back to conference with the instruction to House committee members that they insist on recognition of the House expression.

5050 Visualier series — 2 lamp rows — 4 ft. and 8 ft. — fluorescent or slimline — individual mounting or continuous runs.
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and many well-known offices have been improved by
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The ONLY
Lighting Fixtures With:
45° Shielding both ways
50-50 light distribution
77% lighting efficiency
Softly illuminated side panels for low brightness contrast.
All metal construction — no glass or plastic to break or warp.
One-piece louver shield — hinged from either side or removable.
Large louver cells easily cleaned from floor with brush or vacuum.
Couple perfectly for continuous runs.
No other fixture exceeds by so much the A.I.A. and I.E.S. school lighting standards. Literature and E.T.L. data sent on request.
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The home builders' argument against public housing in general centered on the fact that some 60,000 units to be under construction during the emergency period will drain off critical steel pipe, nails, copper wiring, reinforcing steel and other items. But the greatest fear was a substantial increase in tax subsidies for the local housing authorities; a move which the builders maintain could swamp private construction completely.

The N.A.H.B. criticism drew a quick rebuttal from the Public Housing Administration. This Housing and Home Finance Agency constituent claimed that opponents had sought to distort and exaggerate public housing volume. It claimed the facts to be these:

Public housing is not being built at any unauthorized rate or at an excessive rate. Up to the month of June it had been lagging seriously behind its scheduled rate and only in June was it finally able to come up to a reasonable proportion of total home building during the year.

Public housing starts for the first six months totalled 60,000 units, or about 10 per cent of total housing starts — the proportion contemplated under the Act of 1949. PHA also claimed that if Congress should approve the 50,000 starts for fiscal 1952, the volume still would fall far short of the much-talked-about 10 per cent ratio. Said PHA:

"The number of starts in June is not a monthly rate. . . . Neither does it change in any way either Presidential or Congressional limitations designed to limit the volume of public housing to a reasonable proportion of the total housing that can be permitted during the defense period." It was admitted that the extra heavy June showing was the result of special effort by local authorities to avoid being "frozen" by the limitations threatened in Congress for fiscal 1952.

"Private construction itself already has built considerably more housing this year than the 850,000 annual rate would call for," PHA observed. "It is absurd to talk about any threat to private industry which has already started more than half a million units in six months."

B.R.A.B. And Conservation

The effort of the Building Research Advisory Board on its work on building materials conservation among federal agencies, being done for the Defense Production Administration, is expected

(*Continued on page 22*)

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Federal-Featherweight Precast Roof Slabs are made of this structural concrete - cannot rot, rust or disintegrate. Maintenance is unheard of- there is no painting, no repairs nor replacements.

Truly, roof service at lowest overall cost!

"Everlastingly Yours"

CHANNEL ROOF DECK SLABS for use with composition covering. NAILING CONCRETE SLABS to hold securely, slate, tile, copper or other ornamental roof.

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PRECAST STRUCTURAL CONCRETE ROOF SLABS

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Northern Ordnance, Inc., Minneapolis, Minn., with nearly 310,000 sq. ft. of Federal-Featherweight Precast Concrete Roof Slabs. Archt. Kluq & Smith, Milwaukee; Contr. Geo. F. Cook Construction Co., Minneapolis, Minn.

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EXECUTIVE OFFICES: 608 SOUTH DEARBORN STREET • CHICAGO 5, ILL.

FOR FORTY-FIVE YEARS — SALES OFFICES IN PRINCIPAL CITIES

WASHINGTON (*Cont. from p. 20*)

to have far-reaching effects in the unification of standards of design and construction. Valuable information for architects should come out of the year's program.

B.R.A.B. is under a contract with the federal government to provide information — already being made available — on conservation methods being practiced by the federal agencies with sizeable construction programs. Many of these practices are not now known generally and it is expected the reports and recommendations of B.R.A.B. will be used widely by the Defense Production Administration in its Conservation Division for establishing conservation policies made necessary by defense mobilization.

More simply stated, the overall purpose of the study is to provide for the construction of as many buildings as possible within the limits of materials available.

James W. Follin heads up the DPA conservation subcommittee which has the direct responsibility for carrying out this undertaking. The group is composed of engineers, specification writers and other technicians from these agencies: Office of Defense Mobilization, DPA, National Production Authority (Facilities and Construction Bureau), Army Corps of Engineers, Navy Bureau of Yards and Docks, Air Force, Munitions Board, Veterans Administration, General Services Administration, Federal Security Agency, Housing and Home Finance Agency, and the National Bureau of Standards.

William H. Scheick, executive director of B.R.A.B., is a member of the subcommittee to provide liaison with the committee. The sub-committee already has identified and endorsed as sound engineering practice, four design standards (ARCHITECTURAL RECORD, August 1951, page 14).

As explained by B.R.A.B. itself, the research organization will make a study of technical information on existing practices, standards and regulations which provide reliable criteria for the evaluation of conservation measures in building design and construction. As the study progresses, the Board also will investigate proposed and alternative practices which are not in effect generally but appear to have potentials for conservation.

The study's second phase will embrace a review of practices in federal building construction, including military. This will be directed especially toward identifying conservation measures practiced by agencies of the government engaged in construction and to determine differences in the standards of the various agencies.

Mr. Scheick said both parties to the contract see possibilities in this work for long-term benefits to building construction through an organized study useful in the unification of building standards and regulations. The Board in its work will enlist the technical aid and advice of many persons representing the technical bodies that establish standards for the building industry. Task force advisors and advisory groups are being called on to consider data and information collected by the B.R.A.B. technical staff, to evaluate this information, and to make recommendations to the Board.

Four new technical men were added to the B.R.A.B. staff to handle the pro-

(*Continued on page 24*)

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PLASTOID PUTTIES
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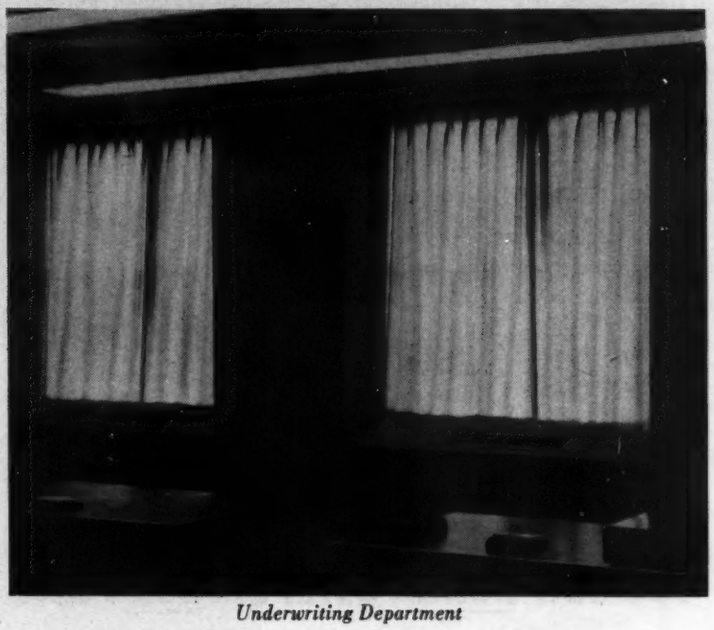
TEMPERATURE CONTROL: Interstate's beautiful new home office in Chattanooga, Tenn., is a masterpiece of modern efficiency and equipment. Goodall Mohair Casements easily measure up to these high standards...play an important role in keeping the building's room temperature comfortable. For Goodall Casements are highly reflective ...bounce back the sun's heat rays in summer... minimize chilling from icy windows in winter. Naturally, this eases the load on air-conditioning systems...helps keep non-air-conditioned rooms cooler in hot weather, warmer in cold weather.



Underwriting Department

NOISE CONTROL: Goodall Casements boost efficiency another way by lessening the din of office machines and voices. They actually absorb sound...are far superior acoustically to hard, flat surfaces.

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LONGER WEAR: Thanks to their variable blend of mohair, cotton, and rayon...Goodall Casements are *Blended-to-Perform*...to give longer wear...to resist sun-fading and wrinkling.

Discover the advantages of Goodall Mohair Casements for your organization... invest now in lasting beauty and long-range economy.

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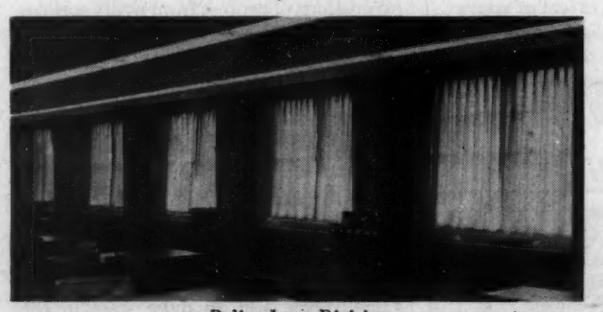

Policy Issue Division

Goodall-Fabrics
THE FINEST NAME IN FABRICS

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You can Build Faster . . . Sell Faster, too with "MODERNFOLD" Doors

You're looking into the living-bedroom combination of a home in Bucknell Manor, Fairfax County, Alexandria, Va. Clarence W. Gosnell, Inc., builder of 232 homes equipped with "Modernfold" doors, reports he was able to:

SELL FASTER because prospects liked the planned flexibility given them by one large "Modernfold" door. Folding it to the wall creates a massive 30-foot living room . . . unfolding it fully adds an extra bedroom. All this within a first floor area of *only 720 square feet!* Mr. Gosnell was able to:

BUILD FASTER because steel-framed, Vinyl-covered "Modernfold" doors are easy and economical to install. Far easier than a bearing partition; faster and no more expensive than conventional doors that require trimming, fitting, painting, and hardware. Mail the coupon for full details.

"MODERNFOLD" DOORS, in standard sizes, save more than 8 square feet of space that swinging doors waste. Virtually a must for compact apartment kitchens.

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New Castle Products
P.O. Box 810
New Castle, Indiana

Gentlemen:
Please send me full details on "Modernfold" doors.

Name_____

Address_____

City_____ County____ State____

WASHINGTON

(*Continued from page 22*)

gram. Mr. Scheick has announced that he resigned his position at the University of Illinois to devote full time and energy to the direction of the entire B.R.A.B. effort; this and other research programs.

More VA Hospitals?

The controversy over the size of the Veterans Administration hospital building program refused to die. The House again passed a resolution directing that 14 new hospitals and 24 addition projects formerly stricken from the program by Presidential edict be constructed. But the House had done the same thing on the same subject in the previous session and the resolution had died in the Senate. The current attempt to force construction of the full program as originally authorized was expected to suffer the same fate. Even if Congress did give approval to the resolution, the President still could veto the measure in upholding his action a few years ago when he ordered VA not to build the additional bed space because of the shortage of doctors and other hospital personnel.

The August 1 summary of hospital building by the Veterans Administration indicates a total of $1,044,278,931 available for construction of new hospitals in the entire undertaking. A footnote explains, however, that the President directed "a substantial reduction" in the program for the fiscal 1950 budget by cancellation and size reduction of authorized hospitals. His order to VA went out in January 1949.

The White House action met with expressions of protest from many sources and resulted, eventually, in a Senate subcommittee investigation of the matter. A report was filed from that probe citing the need for additional bed space, but the White House did not budge on its stand.

As of August 1, 1951, the VA had in operation 150 hospitals with a bed capacity of 115,683. Construction had been completed on 32 hospitals with 13,592 beds, and 28 more were in the process of construction, to furnish 17,254 additional beds when completed. The portion of the program stymied by the Presidential order would have pro-

vided an additional 16,000 beds, both through construction of new hospital facilities and additions to existing buildings.

There were also, on August 1, six hospitals on the drawing boards, four neuropsychiatric and two general medical. Together, these will provide around 5000 more beds.

When additions to existing hospitals are added in to the completed construction program, there are 71 projects finished with a stated bed capacity of 25,739. Thirty-one other additions are being constructed and seven are in the planning stage. This activity will add 18,446 and 5500 beds respectively.

As the building program continued, there were reports of high bed vacancies in the VA hospital system. The end of the 1951 fiscal year (June 30) saw 23,888 empty beds. The charge was made in some quarters that VA was caring for fewer patients despite the fact it had completed and opened 18 new hospitals in the 1951 fiscal period. The 18 new projects added 5745 beds to overall capacity.

HHFA Approves Model Code

While there was little publicly expressed opposition to the broadening of the Controlled Materials Plan, private industry sources were quick to strike against some developments in housing. The Housing and Home Finance Agency's research division announced approval of a proposed model emergency building code ordinance to permit local building officials to authorize use of alternate materials and techniques during the emergency when such materials are in short supply. In making the announcement, HHFA unfortunately selected as an example of how the substitution might work, the use of steel for copper in house electrical systems.

The National Electrical Contractors Association seized on this with the question, "How ridiculous can government get?" It followed up with a strong attack against this specific suggestion and in general against any research activity by government.

HHFA in turn followed its original announcement with another release accompanied by a note to editors explaining that the steel-for-copper-wire example was not a valid one. It appeared in the first press release through a failure of clearance procedure, the agency explained.

(*Continued on page 27*)

GE WATER COOLERS

BOTTLE AND PRESSURE TYPES

FINGERPRINTS DON'T SHOW · STAYS SPOTLESS!
IT'S SO GOOD LOOKING
SUPER INSULATION – HOLDS COLD IN, KEEPS COST DOWN!
7 GLASSES PER DAY FOR PEAK EFFICIENCY
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Install new General Electric Water Coolers for dependable, economical, sanitary drinking water. Choose from four pressure type sizes, including a water-cooled unit for installations where there is abnormal dust or lint or where the air temperature is unusually high. The bottle type water cooler requires only a nearby electric outlet, thus offering the maximum flexibility in choice of location.

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Please send without obligation to me the fully illustrated book, "Water at Work."

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What supoib taste! For help with the temperature control they consulted Honeywell!

We doubt that cartoonist Larry Reynolds' character, Butch, knows the difference between a stud and a joist.

But he certainly has one mighty sound idea.

Honeywell *can* help architects and their heating engineers provide the proper thermal environment for any client – anywhere – in any kind of structure. We have a lot of well informed control engineers – in our 91 different offices – who are experienced in doing just that. And we have a lot of literature that's yours for the asking – on the automatic control of heating, ventilating and air conditioning.

So, why not *talk to Honeywell?* Why not *write to Honeywell* about *your* control problem? And why not do it *now?*

For information on how to solve heating control problems in hospitals, see the column across the page.

MINNEAPOLIS
Honeywell
First in Controls

WASHINGTON

(*Continued from page 25*)

Housing Administrator Raymond Foley was quoted by his press section as hailing the code document as "an outstanding example of voluntary cooperation between local and national officials to achieve a major contribution to the national defense program."

The Foley quotation continued: "While many existing codes provide the local building official with authority to approve alternate materials and methods under standards which will protect public health, safety, and welfare, a large number do not contain such authority, even for emergency administration in periods of shortages. This ordinance, a product of several months of work by local building officials and government people, is designed so that it can be adopted by any locality, with proper modifications to meet local requirements.

"During national emergencies certain critical materials are needed for defense purposes, which must get top priority. Thus, although they may be required by local building regulations, they may not be available. Yet certain construction and repair must go forward, and this emergency ordinance, when locally adapted, permits local building officials to approve the use of alternate materials and techniques when such an emergency arises and shortens the supply of required materials."

HHFA stressed that the ordinance was prepared only as a guide and suggestion to city councils, mayors, city managers and building officials of cities whose building codes do not permit authorization of alternate materials and methods in times of emergency. Cities wishing to take such action would have to adapt the ordinance to fit the relevant portions of state laws, municipal charters and local building codes.

HHFA's Acting Director of Research at the time, Joseph H. Orendorff, said this:

"Of course we can't predict exactly what the impact of a continued emergency will be on building materials and methods. If some shortages become as severe as they were in World War II, local building officials may find it desirable or necessary to authorize use, for

(*Continued on page 222*)

Personalized 8½" x 9" reproductions of Larry Reynolds' cartoon are available upon request.

What supoib taste! For help with the temperature control they consulted (your firm name .

For help with any control problem, talk to Honeywell!

Heating a hospital, for instance . . .

Here's an excellent way to help make sure the hospital you work on today will meet the needs of tomorrow: *Specifiy Honeywell Individual Room Temperature Control.*

The trend indicates it will soon be routine medical practice to give each patient the *exact* room temperature he needs to get well fastest. This means, of course, that Individual Room Temperature Control will soon be a "must" in the modern hospital—because no other system can compensate as well for varying effects of wind, sun, open windows and variations in internal load.

Thus, it's just sound planning to install Honeywell Individual Room Temperature Control when a hospital is being built. Doing it later, as a modernization project, is sure to cost your client more money.

For full facts about this remarkable system—and about the special Honeywell thermostat designed to meet a hospital's special needs—mail the coupon below today.

☐ Please send me complete details on Individual Room Temperature Control for hospitals.

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Send this coupon today to Dept. AR-9-158, Minneapolis 8, Minnesota.

MINNEAPOLIS **Honeywell**

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CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
April 1951	273.5	271.7	262.7	263.8	262.3
May 1951	273.6	271.8	262.9	264.2	262.4
June 1951	272.9	270.9	264.6	266.3	262.9
	% increase over 1939				
June 1951	121.0	121.3	102.4	99.6	102.1

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
April 1951	212.8	214.4	203.0	201.6	202.7
May 1951	213.0	214.6	203.5	202.4	202.9
June 1951	212.3	213.9	204.4	203.2	204.6
	% increase over 1939				
June 1951	146.0	157.4	114.9	108.6	116.1

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
April 1951	250.7	247.9	236.4	236.7	235.9
May 1951	252.9	249.1	240.1	241.7	240.2
June 1951	252.1	248.0	240.4	242.4	240.2
	% increase over 1939				
June 1951	128.8	131.8	102.5	102.3	101.8

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
April 1951	242.9	238.7	237.2	240.8	241.1
May 1951	245.0	240.4	239.9	244.1	244.2
June 1951	245.7	241.5	240.5	244.2	244.5
	% increase over 1939				
June 1951	132.7	143.2	104.9	100.3	109.9

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

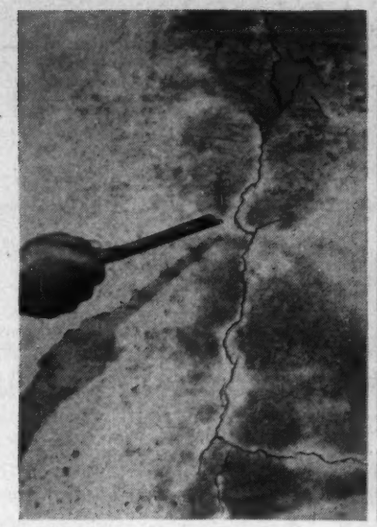
Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

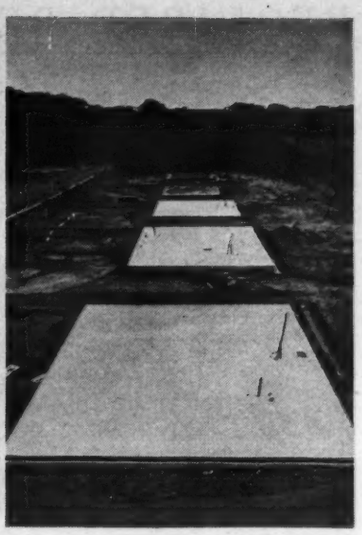
These index numbers will appear regularly on this page.

TWO BUILDING DEVELOPMENTS

TWO DIFFERENT TYPES OF SLABS ON GRADE

Two very different results!





• This happened! On two adjacent real estate developments, concrete slabs were being poured in very hot weather. The two photos at the right tell the story of Development A. The photo below tells the story of Development B.

Six-man crews were used in both cases. On Development A the crew poured two slabs in a full working day. On Development B—four slabs *in half a day*. But that's not the whole story!

On Development B— where Nova-I.P.C methods were used

—the concrete developed no cracks or crazing such as in Development A. And when it rained the next day, the water stayed on top of the slabs.

It costs less to use Nova-I.P.C methods—than not to use them. There is only one water rise—which eliminates overtime. You use only bank-run sand and gravel under the slab —no membrane or washed gravel. And no paper covering for final curing! There will be no musty smell in any room or closet—the flooring and floor coverings will not rot out.

For slabs or dams, for cellars or pools, for any porous masonry surface—*wherever you want to keep water in or out* — there are fully tested Nova-I.P.C products and methods available.

We have the products, the know-how and the current case histories that will convince you. To get the full story, mail the coupon today!

NOVA SALES Co. **TRENTON 3, N. J.**

A wholly owned subsidiary of the Homasote Company, manufacturers of the oldest and strongest insulating-building board, Wood-textured and Striated panels.

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NOVA SALES CO., Trenton 3, N. J.
Dept. 30

Send full details on NOVA-I.P.C Method of protecting buildings from the weather.

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My lumber dealer is.....

REQUIRED READING

Adlocutio scene from the Column of Trajan, Rome. 113–114 A.D.

Merging pendentives of brick in St. Menas' tomb, Maryut. 400–410 A.D. Photographs from Roman Sources of Christian Art

Northern nave arcade and north aisle from the east. Hagia Sophia

CHRISTIAN ART

Roman Sources of Christian Art. By Emerson H. Swift. Columbia University Press (2960 Broadway, New York 27, N. Y.), 1951. 8⅛ by 12 in. 248 pp. + 48 pp. plates. $10.00.

Emerson Swift's contention that Christian art had its origins in Pagan Rome is not new. To some it remains a valid idea, and certainly one to which careful attention might be given.

In introducing the book, Mr. Swift describes it as an outgrowth and development of three lectures previously given by him on Hagia Sophia — constituting an "outline of the facts and theories which pointed toward a specifically Western origin of the Byzantine style of building and of structural and aesthetic principles on which the latter seemed to rest."

Of the four predominating views of the sources of Christian art (Graeco-Hellenistic, Oriental Hellenistic, Oriental Roman and Western Roman), Mr. Swift's identification with the latter is upheld for the main part, on the strength of architectural clues and indications. His chapters are devoted to such phases as "Central and Cruciform Churches," "Arches, Vaults and Domes," "The Dome on Pendentives," "Spatial Concepts" — as well as "Christian Symbolism and the Narrative Style," "Frontality and 'Oriental' Colorism," etc.

Although we can see and often criticize the assimilative quality in Roman architecture that was subjected to Greek revivals, Mr. Swift still finds it "original and essentially creative." (And the Maison Carée in Nîmes is surely one of the most graceful and successful examples of Roman eclecticism.) He puts forth further, "there existed throughout the artistic history of Rome a characteristic and independent will to form, sufficiently clear in its direction and powerful to impose Roman ideals, styles and methods on the great majority of artists within its direct sphere of influence." These, then, are the assumptions which validate for the author the Roman stamp on Christian art from its earliest beginnings to the middle Byzantine.

Of considerable significance to Mr. Swift is the case for pendentives and their Roman development. For here he finds strong supporting evidence for his thesis. He discusses the development from the hemispherical dome placed on cylindrical walls, to the lobed or paneled dome resting on supporting walls or arches, to the ribbed dome, to the dome placed on a square structure and supported by octagonal walls whose angles are closed with curved, triangular surfaces, or pendentives. Inspired by the near east and developed in the secular architecture of Rome, the pendentive was then taken to Constantinople, according to Swift, finally to come forth in the resplendent Hagia Sophia.

The "origin and development of the mediaeval Christian styles of architecture must be considered specifically Western," says Swift, because of "plan and structure of the typical early Christian basilica, whose essential elements are drawn essentially from the characteristic forms of the earlier pagan basilica of established Western type, particularly as the latter was used in the secular style of Imperial Rome."

Mr. Swift, at least, is not fiddling. He admits the existence of alternatives and works hard not to let them stand up. But like Vasari, he too could be wrong and perhaps a closer study of the thinking of the times — the spirit of the Byzantine age and its emerging Christianity would have revealed a different connection, or thrown a different light on other sources of, or reasons for, Christian art, which would de-emphasize the importance of Roman earmarks.

We know Constantine took the best artists with him when he left Rome. But look at the arch that honors him: there, surely, is "death and degradation" of the once great — in its own way — Roman art.

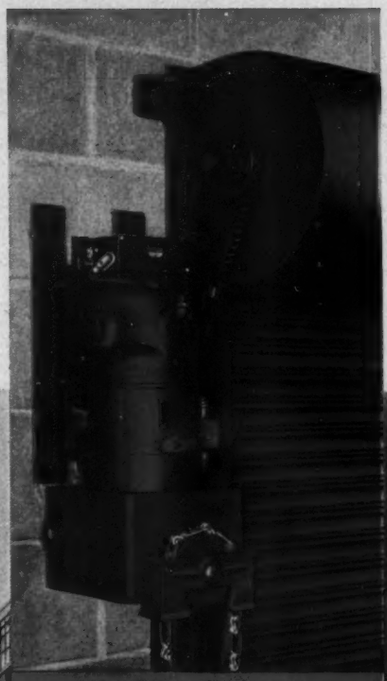
BRITISH ARCHITECTURE

The Buildings of England. Cornwall. By Nikolaus Pevsner. Penguin Books, Inc. (3300 Clipper Mill Rd., Baltimore, Md.), 1951. 7⅛ by 4½ in., 251 pp., illus. 85 cents.

The first of a series which will include all the counties of England, this book lists in alphabetical order the buildings of Cornwall. Its time span is all-inclusive, extending from prehistoric to mod-

(Continued on page 32)

Rolling Steel DOORS



MAHON STANDARD
POWER OPERATOR 920-P

Manually, Mechanically, or Power Operated

Here again, in the illustration below, you see Rolling Steel Doors employed where no other type of door would serve the purpose . . . in six truck openings and one railroad opening in a combination inside rail and truck shipping platform arrangement in a new, modern foundry building. Rolling Steel Doors were selected because they occupy no usable space inside or outside the opening—and, because their quick-opening, quick-closing operation, by means of reliable power operators, offers many time-saving advantages. When you select a Rolling Steel Door, it will pay you to check the specifications carefully against the price tags . . . the Mahon curtain slat material is chemically cleaned, acid etched, and chromated to provide paint bond, and the protective coating of oven-baked enamel is applied prior to roll-forming. These are some of the extra value features of Mahon Rolling Steel Doors—you will find others. See Sweet's Files for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY

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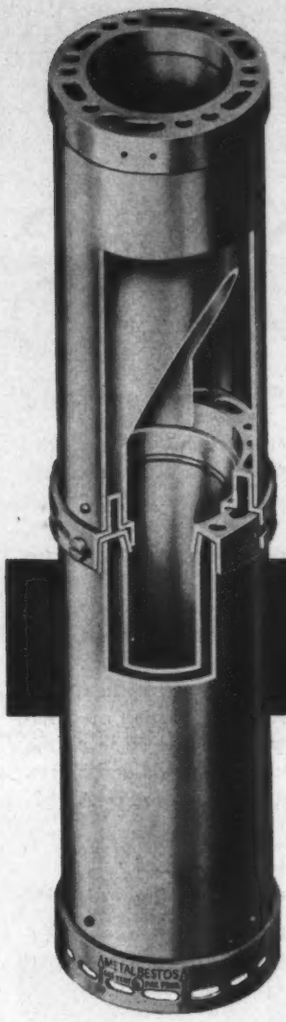
Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls; Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six Mahon Power Operated Rolling Steel Doors 18' 7" x 14' installed in a new building designed and built by The Austin Company for the Albion Malleable Iron Works. Another Mahon Power Operated Door 17' x 22' was installed in a railroad opening in the same building.

MAHON



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Lasting Construction

Permanent protection against the corrosive action of flue gases, condensates and the weather is provided by QC Metalbestos. Deterioration due to corrosion and cracking is eliminated when you specify this sturdy, all-aluminum, double wall gas vent pipe.

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METALBESTOS DIVISION

WILLIAM WALLACE COMPANY · BELMONT, CALIF.

REQUIRED READING

(Continued from page 30)

ern times; and its subject matter extensive, including detailed information on the architectural features of ecclesiastical, public, and domestic buildings.

The author, one of the editors of the *Architectural Review* and Slade Professor of Fine Art at Cambridge, has prefaced the book with an introduction which tells the architectural history of the county.

Additional features are a 64-page center section of photographs; a glossary; and indexes of plates, artists, and places. The book will be especially valuable for reference.

A Pocket Guide to Modern Buildings in London. Compiled by Ian McCallum. The Architectural Press (London), 1951. 5½ by 4½ in., 128 pp., illus. 3/6.

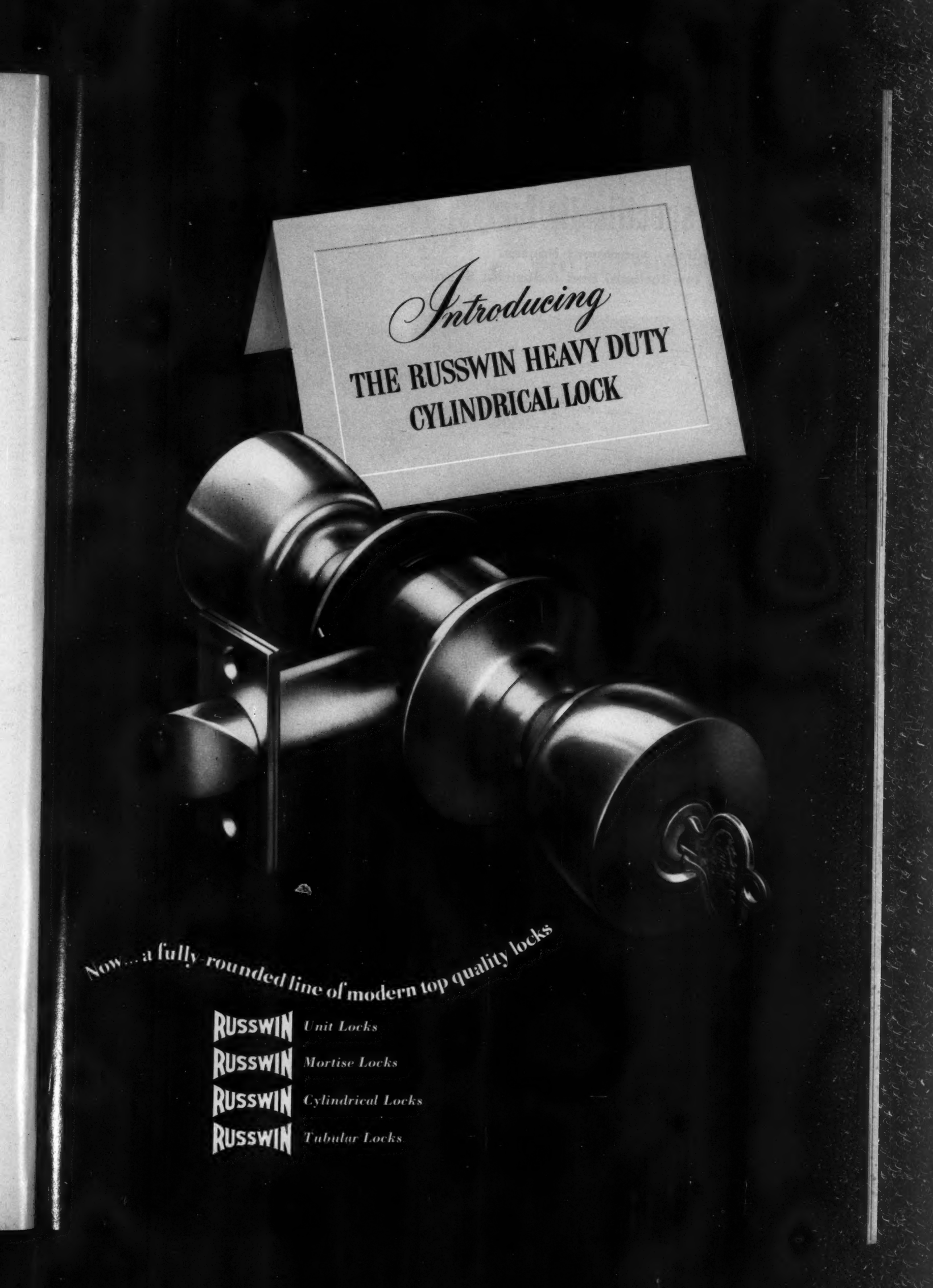
Unpretentious and primarily useful, this pocket-size volume is exactly what its title claims it to be, a guide to the modern buildings in London. The compiler has mapped a circle around London, with a radius of seven miles, and filled in the circumscribed area with topographical features, transportation lines, and letters to designate the buildings which are described individually in the pages following each quarter section of the map.

Each building featured is furnished an illustration, usually full page, and text which conforms to this outline: *general* (purpose and special points of interest), *planning, structure, finishes,* and *equipment.* Directions for reaching the site and transportation facilities are listed for each entry.

To further the usefulness of the volume, the compiler has supplemented the illustrated content, necessarily selective and but a cross-section of the subjecte with indexes which include a greater, number of buildings and which are arranged according to architects, building types, and geographical location. He offers, too, an introduction to give "the barest outline of the contemporary architectural scene" and a classified bibliography.

Simple in arrangement and practical in purpose, the *Guide* is as well pleasantly varied — including, along with flats and offices, a gorilla house and a penguin pool.

(Reviews continued on page 266)

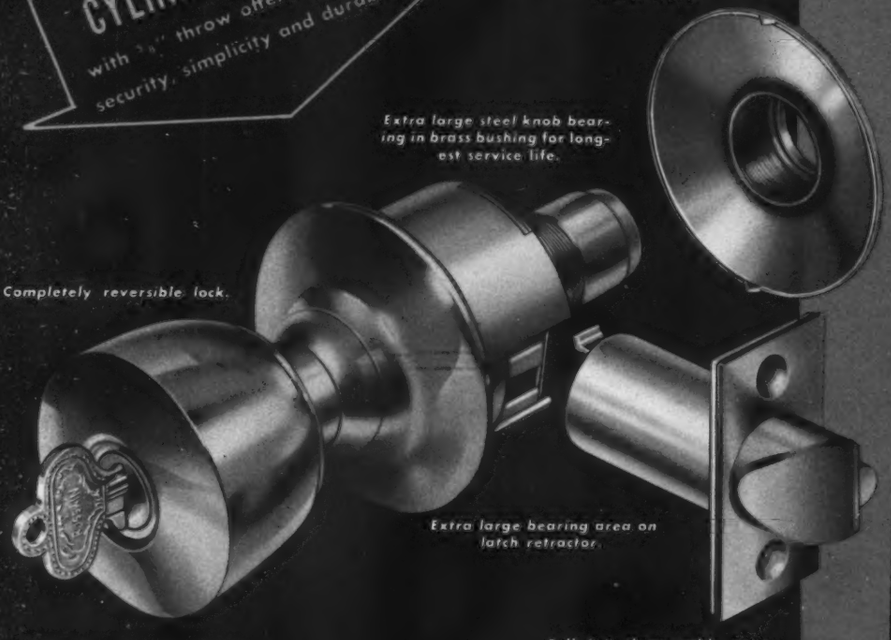

Introducing
THE RUSSWIN HEAVY DUTY
CYLINDRICAL LOCK
Now... a fully-rounded line of modern top quality locks
RUSSWIN Unit Locks
RUSSWIN Mortise Locks
RUSSWIN Cylindrical Locks
RUSSWIN Tubular Locks

Designed specifically for...

Schools, Hospitals, Apartment Houses,
Commercial, Institutional and Industrial Buildings.

THE NEW RUSSWIN CYLINDRICAL LOCK

with 3/4" throw offers unmatched security, simplicity and durability.



Wrought or cast brass or bronze trim.

Extra large steel knob bearing in brass bushing for longest service life.

Completely reversible lock.

Extra large bearing area on latch retractor.

Exclusive Russwin ball bearing pin tumbler cylinder.

Full 3/4" throw adds extra security . . . handles extreme door shrinkage.

Simplified knob design assures quick, scar-proof door assembly. Knob action is strong, positive.

Seamless tubular knob shank for full torsional strength.

The addition of heavy-duty cylindrical locks to the Russwin Line of Builders' Hardware offers architects and consultants a new opportunity to recommend Russwin Quality Hardware *throughout*. This latest member of the Russwin Family has been developed to meet the most exacting standards of the architectural profession and building industry. The benefits of its advanced design and construction can be demonstrated easily to every interested client. What's more, the addition of heavy-duty cylindrical locks to the Russwin Line makes possible simpler, faster, more trouble-free specification writing. Every type of lock is now available from Russwin besides other essential builders' hardware . . . for a wide variety of buildings.

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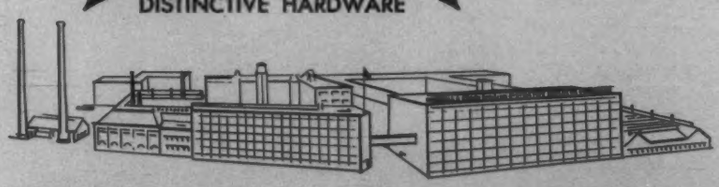
DISTINCTIVE HARDWARE

PROVING THE ECONOMY OF QUALITY



RUSSWIN®

HEAVY-DUTY CYLINDRICAL LOCKS

MECHANICAL DESIGN FEATURES

HEAVY-DUTY CONSTRUCTION

Seamless Tubular knob shank; full torsional strength of knob shank developed due to absence of longitudinal split. Double dog knob flange develops maximum strength between knob and knob shank. Phosphor bronze coil compression springs used throughout.

SIMPLIFIED CONSTRUCTION

Integrated design provides maximum number of lock functions with minimum number of different parts. Trouble-free operation assured through fewest possible number of parts in each lock.

PRECISION MADE

Completely toleranced design insures uniform precision of parts.

REVERSIBLE LATCH

Minimum disassembly required to insure upright key. Reverse bevel condition easily met by simple operation of reversing knob.

BALL BEARING CYLINDER

Famous Russwin 6 pin tumbler ball bearing principle utilized in all keyed functions. Only Russwins have the ball bearing cylinder.

KEYS

Lifetime keys insured through use of 12% nickel alloy for all keys.

MASTER KEY

Locks can be furnished to any established Russwin master key system, regardless of complexity.

REVERSIBLE CYLINDER

Cylinder may be reversed by removal of one screw. This operation easily performed in field — insures against installation of lock with upside down pin chamber. This allows adequate drainage of cylinder pin holes and tends to prevent dirt accumulations.

LONGER LATCH BOLT THROW

Full ⅝" latch bolt throw insures maximum security under the worst conditions of door shrinkage.

STRIKE

Box strike insures full latch bolt engagement under all installation conditions, also armors against tampering with latch bolt when in position. 1⅛" lip allows for maximum curve on lip of strike for easy latching.

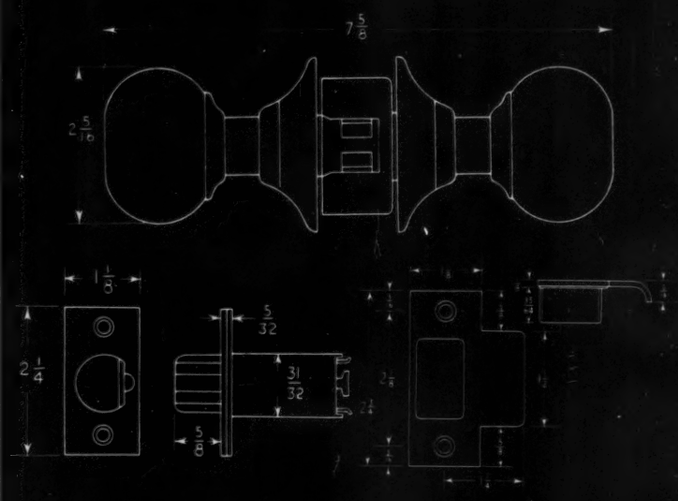
STYLES

Available in *MODERN STYLE:* "Cosmic" design (wrought metal), "Flare" design (cast metal) . . . *CONVENTIONAL STYLE:* "Haddam" design (wrought metal), "Bristol" design (cast metal).

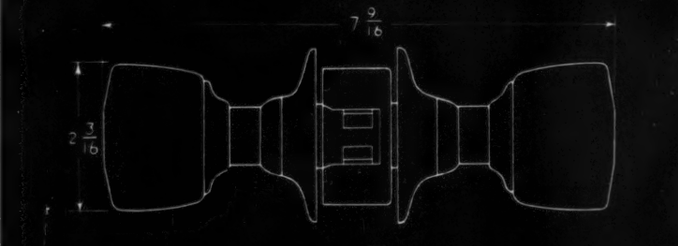
FINISHES

Varied, extremely durable, typical Russwin Quality. See next page.

LOCK DIMENSIONS shown below are overall dimensions for Bristol and Haddam design. Latch and Box Strike dimensions shown are standard for all designs.



LOCK DIMENSIONS shown below are overall dimensions for the Cosmic and Flare designs.



FUNCTIONS

Russwin Heavy-Duty Locks are available in a wide variety of functions for many types of buildings. See following page.

INSTALLATION OF LOCK

Lock easily installed. Just drill 2 holes and mortise front in door. Rose screw adjusted to mark on shank for thickness of door. Inside knob twists into place; not necessary to line up with any component parts or use a tool which might scratch finish.

INTERCHANGEABLITY

Russwin heavy-duty cylindrical locks can be readily interchanged between doors or reversed to take care of changes in swing.

Handy Data on the new Russwin Heavy-Duty Cylindrical Lock Operations

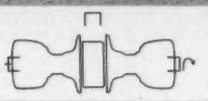
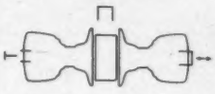
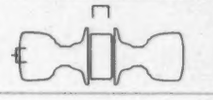
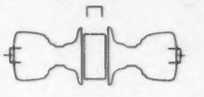
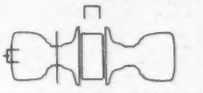
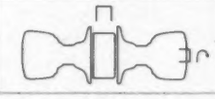
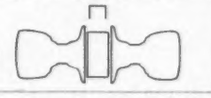
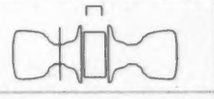
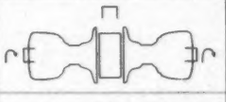
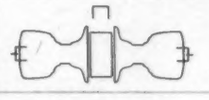
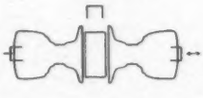
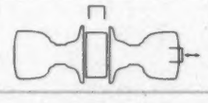
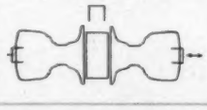
HARMONIZING DESIGNS AND FINISHES

"KEY-NOB" . . . Bristol or Haddam design . . . Finish, Dull Chromium

TURN BUTTON KNOB . . . Cosmic or Flare design . . . Finish, Polished Bronze

PLAIN KNOB . . . Bristol or Haddam design . . . Finish, Polished Chromium

PUSH BUTTON KNOB . . . Cosmic or Flare design . . . Finish, Polished Brass

RECOMMENDED FOR	LOCK NUMBER	LOCK OUTLINE	OPERATION
Residential Front and Rear Doors Office Doors	440		Latch bolt by knob each side. Inside k always free. Turn button dead-locks out knob. Cylinder retracts latch bolt when side knob is locked. Dead locking latch.
Bathrooms and Bedrooms	420		Latch bolt by knob each side. Inside k always free. Push button dead locks out knob. Push button released by turning in knob or closing door . . . also released emergency key through outside knob.
Classroom, Vestibule and Utility Room Doors	440⅝		Latch bolt by knob each side. Inside k always free. Outside knob dead locked key in outside knob. Dead locking latch.
Apartment House Entrance, Office Building and Corridor Doors	446½		Latch bolt by knob each side. Inside k always free. Outside knob dead locked key in inside knob. Key in outside knob tracts latch bolt when outside knob is loc Dead locking latch.
Utility room, Storeroom and Exit Doors	452		Latch bolt by inside knob only. Outside k fixed. Latch bolt may be retracted by cyli in outside knob. Dead locking latch.
Exit Doors	426		Latch bolt by knob either side. Turn but locks or unlocks outside knob. Inside k always free.
Passage Doors	410		Latch bolt by knob either side. Each k always free.
Exit Doors	414		Latch bolt by knob inside only. Inside k always free. Outside knob fixed. Dead ing latch.
Communicating Hotel or Office Doors	428		Latch bolt by knob either side. Turn butto either knob locks or unlocks opposite k Dead locking latch.
Cylinder Communicating Hotel or Office Doors	450½		Latch bolt by knob either side. Cylinder each knob locks or unlocks opposite k Dead locking latch.
Dormitory Bedrooms and Public Rest Room Doors	453		Latch bolt by knob either side. Inside k always free. Push button dead locks out knob. Turning inside knob or closing releases push button. Cylinder releases p button and dead locks outside knob. D locking latch.
Residential Bedroom and Inner Office Doors	422		Latch bolt by knob either side. Push but dead locks outer knob. Inside knob alw free. Turning inner knob or closing door leases push button. Dead locking latch.
Office Doors	446		Latch bolt by knob each side. Push but dead locks outside knob. Inside knob alw free. Turning inside knob releases push butt Cylinder retracts latch bolt and releases p button. Dead locking latch.

SYMBOLS Rigid Knob Cylinder and Key Turn Button Emergency Push Button L

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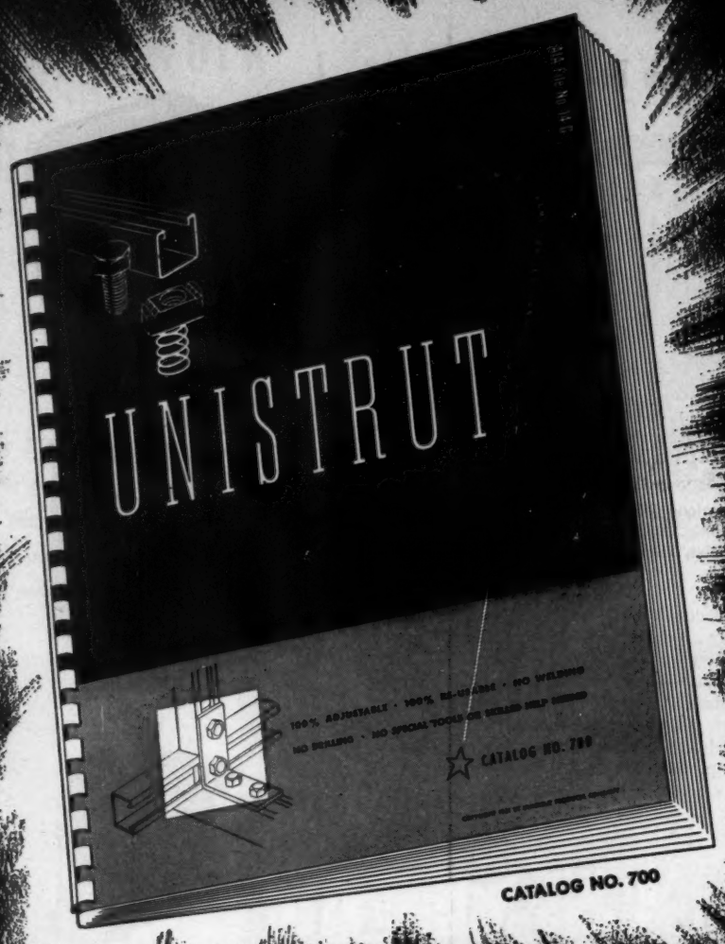

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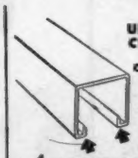
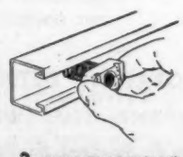
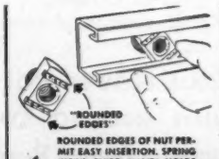


1 WEDGE SHAPED INTURNED EDGES TO TAKE SERRATED GROOVES OF UNISTRUT NUT.

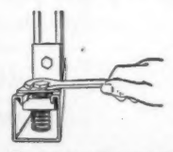
2 SERRATED GROOVES "BITE INTO" INTURNED EDGES OF CHANNEL FOR POSITIVE CLAMPING ACTION.



3 INSERT SPRING NUT ANYWHERE ALONG CONTINUOUS SLOT OF CHANNEL . .



4 ROUNDED EDGES OF NUT PERMIT EASY INSERTION. SPRING (YOUR THIRD HAND) HOLDS NUT SNUGLY IN PLACE FOR BOLTING.



5 ASSEMBLE FITTING, NUT AND BOLT—A TURN OF THE WRENCH, IT'S DONE.

UNISTRUT PRODUCTS COMPANY

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Birmingham, Ala., has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Birmingham by calling 7-2383. In other cities, consult your phone book.

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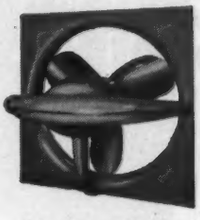
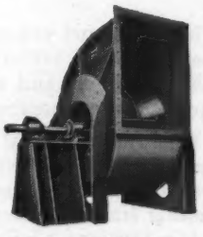
Whether your needs are civilian or military, American Blower heating, cooling, drying, air conditioning and air handling equipment contributes toward improving over-all comfort and efficiency. For data, phone or write our nearest branch office.

Unit Heaters



Ventura Fans

Air Conditioning Equipment



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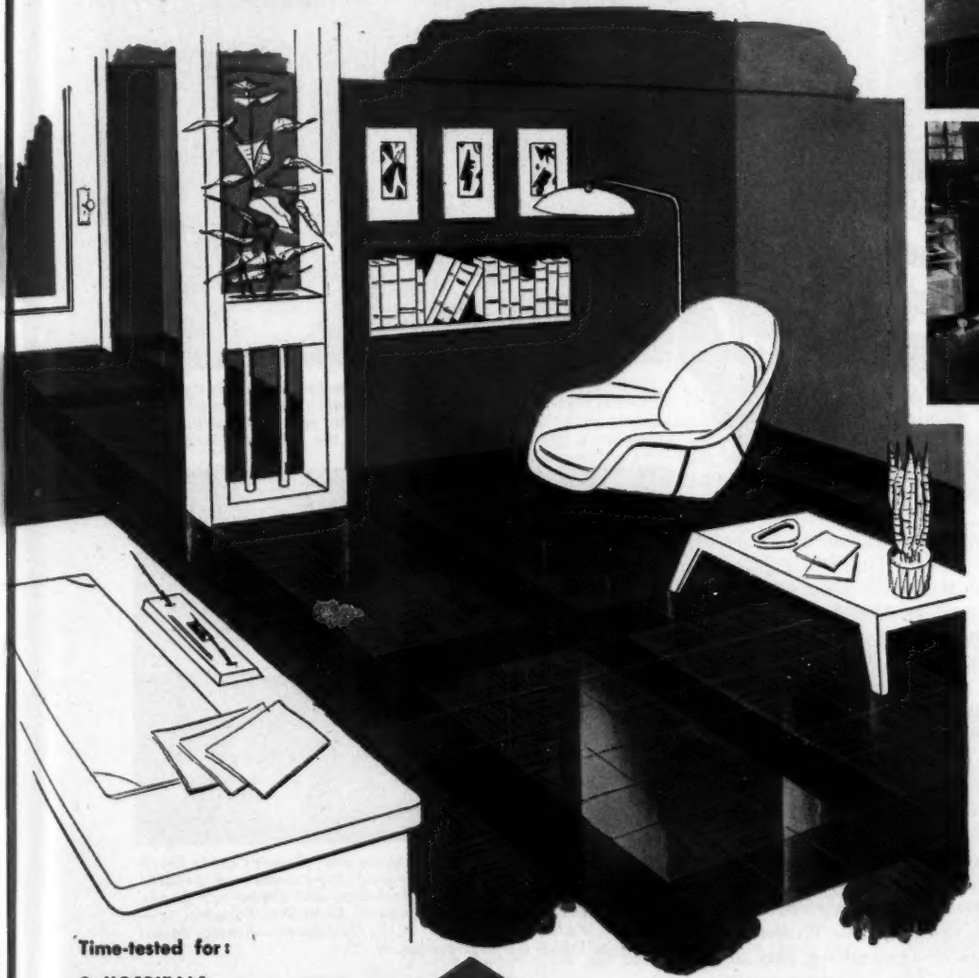

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walls of rubber. New — exclusive — flexible 1/16" gauge fabric back rubber in 28 colors. Simple, quick one-man installation with the advantages of continuous corners and curved surfaces, sanitation, low maintenance and economy. You'll want to include the versatility and colorful beauty of Wall-Flex in your plans.

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ANOTHER CASE OF COPPER where it counts!

COPPER SHEETS, *laid over building paper, are easily and permanently fastened to roof with copper cleats, two copper nails being used in each cleat. 20 oz. Revere Copper was used on the roof; frieze work, gutters and downspouts of the Wollman Memorial.*

NO MATTER WHAT *the style of the roof, Revere Copper Sheets can be made to conform to the desired shape easily and speedily. Aymar Embury II, Consulting Architect, and Embury & Lucas, both of New York, were the Architects. Sheet Metal Contractor—Standard Waterproofing Corp., N. Y. Distributor—Service Metal & Roofing Supply Corp., Brooklyn, N. Y.*

WHEN you are building to endure, that's when copper really counts. In fact, copper is ahead on many counts. Its lasting qualities have been proved down through the centuries. It requires little, if any, maintenance and when aged, adds a distinctive note to the building. Its salvage value is unusually high.

And because it is so readily worked, installing Revere Copper Sheets to fit the unusual contours of roofs; such as the one that covers the Wollman Memorial Building, Central Park, New York; is done easily and speedily when applied by an experienced contractor in accordance with Revere's recommended techniques. Gutters, downspouts and frieze work on this building also are Revere Copper.

Although copper, because of government regulations, cannot now be used for roofing, we use the Wollman Memorial installation as a means of reminding you of the merits of Revere Copper so that when copper once more is permitted for roofing you will again use it. Meantime remember, while limited, you can still get Revere Sheet, Strip and Roll Copper for flashing.

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1. Operating costs are reduced because mercury vapor produces more light per dollar than any other light source.
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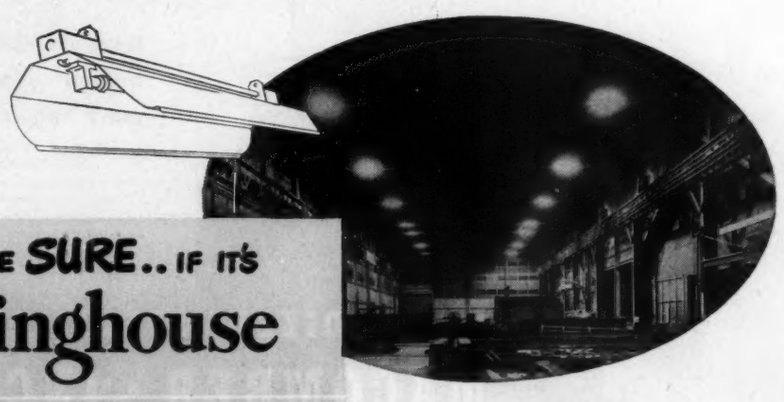
This is one of hundreds of "time-tested" installations. Investigate the Westinghouse Mercury Vapor Line: 400, 1000 and 3000-watt units for low or high-bay areas . . . open or closed fixtures for clean or dirty locations . . . low or high-voltage ballasts for any distribution system.

Send for B-4727, **"Westinghouse Lighting at Work" in every industrial area.** Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.



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LIGHTING DIVISION

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ALL THE ADVANTAGES OF CONVENTIONAL GYPSUM WALLBOARD—*PLUS UP TO*

THREE TIMES THE FIRE RESISTANCE

FIRESTOP BESTWALL offers every advantage of ordinary gypsum wallboard, plus fire resistance *up to three times* as great. It is the only gypsum wallboard made under the Underwriters Laboratories' Reexamination Service. A single-layer application of 5/8" FIRESTOP BESTWALL has a 1 hour fire resistance rating *for walls and ceilings!*

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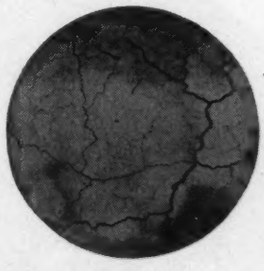
The 5/8" FIRESTOP BESTWALL has greater structural strength and sound-deadening characteristics than ordinary gypsum wallboard, yet handles and cuts as easily.

Write today for our FIRESTOP BESTWALL Folder. It contains complete information and specifications on this remarkable Certain-teed gypsum development.



Unretouched photo showing a section of ordinary gypsum wallboard after it has been subjected to a fire temperature of 1,700°F. for 1 hour. Note the shrinkage cracks, characteristic of ordinary gypsum exposed to heat.

Under the same conditions, FIRESTOP BESTWALL shows no appreciable cracking, because its core is stabilized with incombustible fibers and unexpanded vermiculite, through an exclusive Certain-teed process.

THE CORE MAKES THE DIFFERENCE

AVAILABLE EVERYWHERE IN THE U.S.A.

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CYLINDRICAL LOCKS

. . . with all these extra-quality features you've asked for . . . .

- 5/8 inch throw!
- The same smooth-working, long-lasting roll-back latch principle as the Corbin Unit Lock!
- Cylinder easily replaced from inside if keys are lost!
- 100% reversible!

Designed to please both hand and eye!

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836 Design . . . Tulip knob, wrought brass.

800 Design . . . Round knob, cast brass.
830 Design . . . Round knob, wrought brass.

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Plus —

Compact heavy-duty construction throughout.

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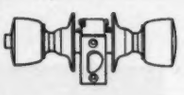
13 Most-used functions!

#400 — Communicating Door Lock — Either knob retracts latchbolt except when locked by turn-button in opposite knob.

#402 — Communicating Door Lock — Either knob retracts latchbolt except when locked by key in opposite knob.

#410 — Passage Latch — Either knob retracts latchbolt at all times.

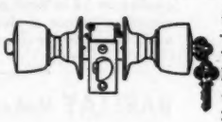
#415 — Exit Door Lock — Inside knob retracts latchbolt at all times. Outside knob is non-operative.



#420 — Bath or Bedroom Lock — Either knob retracts latchbolt except when outside knob is locked by push-button in inside knob. Turning inside knob, closing door or emergency key, nail, etc. in outside knob releases push-button.

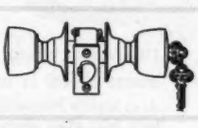
#441 — Inner Office or Bedroom Lock — Either knob retracts latchbolt except when outside knob is locked by push-button in inside knob. Turning inside knob or closing door releases push-button.

#444 — Exit Door Lock — Either knob retracts latchbolt except when outside knob is locked by turn-button in inside knob.

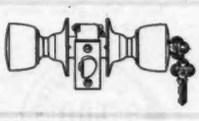


#451 — Exterior or Office Door Lock — Either knob retracts latchbolt except when outside knob is locked by turn-button in inside knob; then by key from outside until turn-button is manually released.

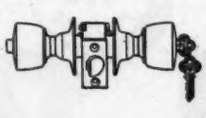
#454 — Apartment House Entrance or Office Building Lavatory Lock — Either knob retracts latchbolt except when outside knob is locked by key in inside knob; then by key from outside until unlocked by inside key.



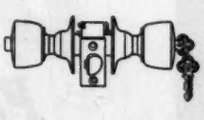
#455 — Classroom, Vestibule or Utility Room Lock — Either knob retracts latchbolt except when outside knob is locked by key in outside knob.



#457 — Storeroom, Utility Room or Exit Door Lock — Inside knob or key in outside knob retracts latchbolt at all times. Outside knob rigid.



#461 — Office Door Lock — Either knob retracts latchbolt except when outside knob is locked by push-button in inside knob; then by key from outside. Turning inside knob or outside key releases push-button; closing door does not release push-button.



#465 — Dormitory or Public Toilet Lock — Either knob retracts latchbolt except when outside knob is locked by push-button in inside knob or by key in outside knob. Push-button is automatically released by turning inside knob or outside key or by closing door; but when outside knob is locked by key, it remains locked until unlocked by key.

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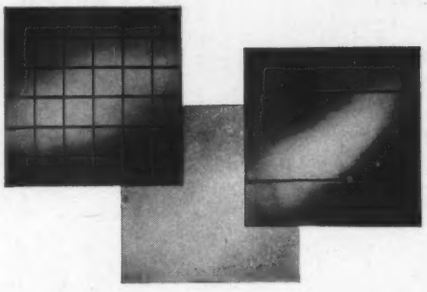
*U. S. Pat. 2311590



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Also highly recommended for linoleum and cork tile, hair felt, glass fibre, cork duct insulation and many other uses.

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Write today for details of BARCLAY *Special Service* recently established for new and reactivated facilities: Military, Defense Housing, Plant Expansion and Commercial Remodeling.

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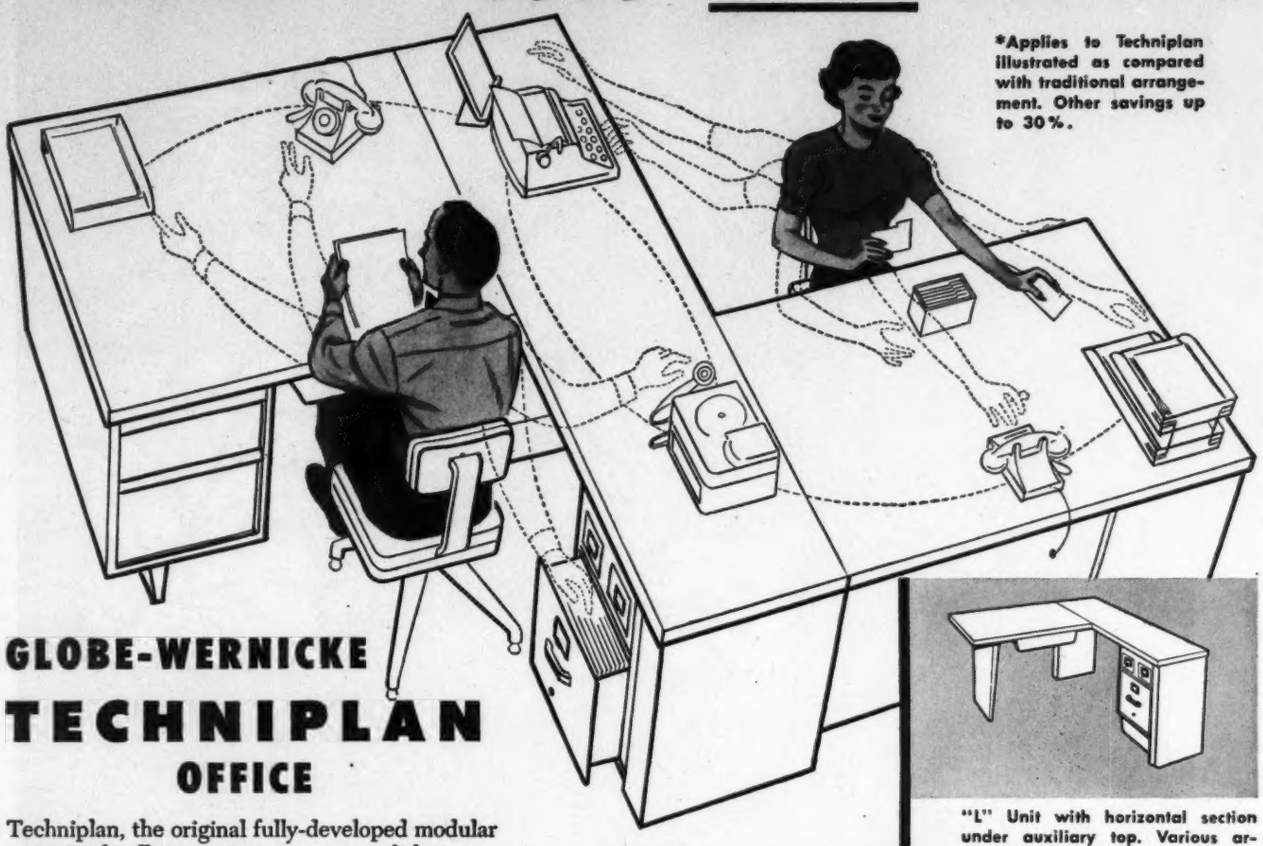
TECHNIPLAN OFFICE ⇨ *new* HIGH EFFICIENCY IN 18%* LESS FLOOR SPACE

*Applies to Techniplan illustrated as compared with traditional arrangement. Other savings up to 30%.



GLOBE-WERNICKE TECHNIPLAN OFFICE

Techniplan, the original fully-developed modular system of office equipment, accomplishes two highly desirable results:

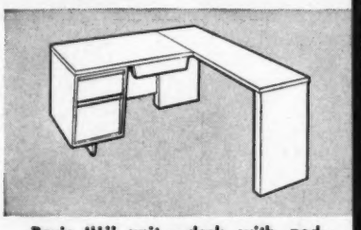
1. Reduces floor space by 18%* per worker without reducing work surface areas.
2. Provides for greater ease and speed in worker output.

TECHNIPLAN uses interlocking, interchangeable units, offering hundreds of variations in arrangement—space utilization. Any desired combination of work facilities. Wasted out-of-reach areas are avoided.

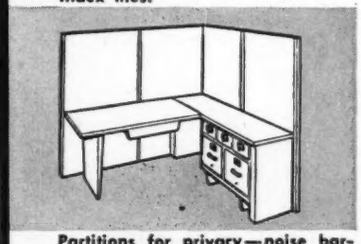
TECHNIPLAN equipment is simple and tasteful in design for distinguished appearance. It can be installed a few units at a time, or the complete office. Rearrangement of the equipment is always easily and quickly made, to suit changing needs.

Get Techniplan information from your Globe-Wernicke dealer—listed in your classified phone directory under "Office Equipment-Furniture"—today!

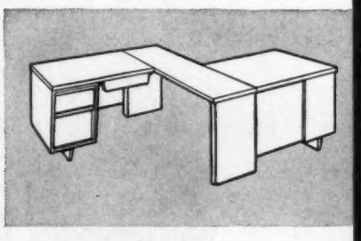
"L" Unit with horizontal section under auxiliary top. Various arrangements possible for letter files, map and drawing files and card index files.



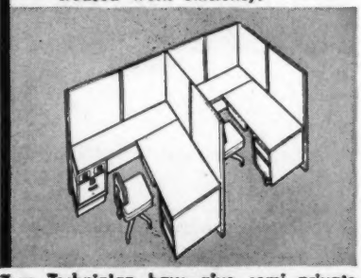
Basic "L" unit—desk with pedestal and center drawer—auxiliary top with end supports.



Partitions for privacy—noise barriers—in full (66") or medium (48") height—in all-wood or combination wood and glass.



← Work station for two persons by the addition of desk unit gives economy of space and increased work efficiency.



Two Techniplan bays give semi-private work stations for two persons. Ideal for executive offices. Full height, all-wood partitions.

GLOBE-WERNICKE

Engineering Specialists in Office Equipment, Systems, and Visible Records

Cincinnati 12, Ohio

SHOWN IS HOOKSETT, AVAILABLE IN MANY CUSTOM DESIGNS AND COLORS

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you have the floor. we have the Lees carpets

If you have a hotel, church, office, club, theatre—or any other area—that needs the finishing beauty of fine carpet—we are equipped to give you the hours of study, consultation, advice—*and* the carpets that you need! Send for information from James Lees and Sons Company, Contract Carpet Division, Bridgeport, Penna., or offices in principal cities.

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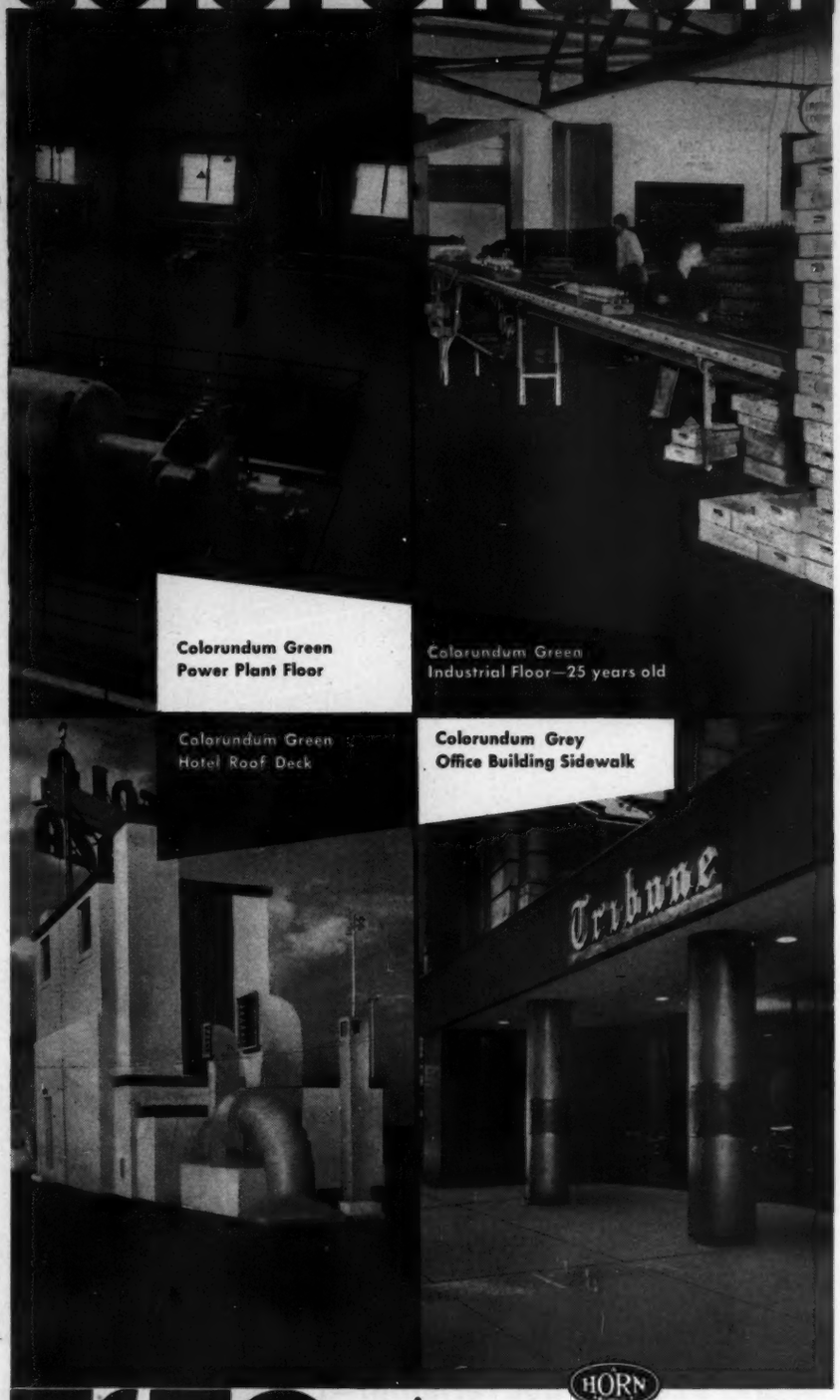
colorundum

Durable Colored Concrete Floors and Sidewalks with Colorundum

trowelled into the fresh cement finish

All over the nation modern building design now includes the use of Colorundum for colored concrete floors, sidewalks, roof decks, industrial and other walkways. Colorundum is used widely for exteriors or interiors—as a wear-resistant and colorful cement topping of long life—at practically the average cost of ordinary concrete. Decorative color combinations are employed of red, maroon, brown, green, dark green, french grey and black.

Colorundum is a dry powder, composed of coloring mediums, fused aggregates, water-repellent and hardening elements, plus cementitious binders. Colorundum is dusted on and floated and trowelled into the fresh cement topping. The non-slip, dense surface makes it an ideal flooring on new concrete or when replacing old concrete floors or sidewalks.



horn

HORN

AR-51

GENTLEMEN:

Please send complete data on COLORUNDUM

NAME_____ TITLE_____

COMPANY_____

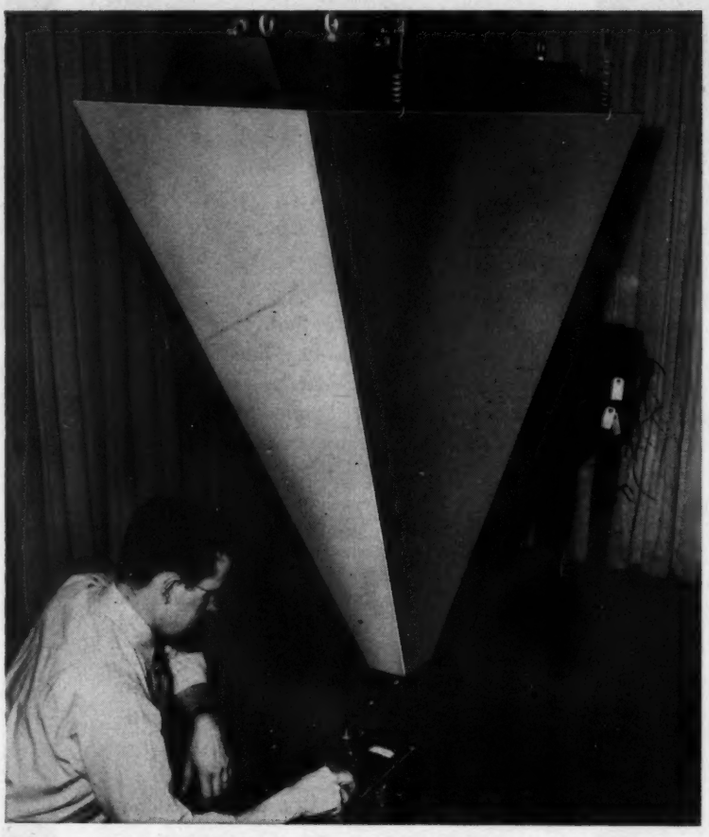
ADDRESS_____

CITY_____ STATE_____

World's Largest Bus Terminal—The 4-level, 800 ft x 200 ft Port Authority Bus Terminal in New York City is the largest and most modern of its type ever built. The red-orange brick structure reduces street congestion by centralizing many of the bus terminals formerly scattered throughout the midtown area. It connects with the Lincoln Tunnel by means of overhead ramps, 1500 ft long, which are radiant-heated with Rayduct steel pipe. The terminal has facilities for about 132,000 passengers daily, and it can handle peak loads of up to 600 buses per hour. About 450 cars can be parked on its 3-acre roof. Both the terminal and its ramps have steel frameworks of Bethlehem Structural Shapes. *Planning and Design:* Port of New York Authority, Frank Carey, resident engineer, John M. Kyle, chief engineer; *Contractor:* Turner Construction Co., New York; *Steel Fabricator and Erector:* Harris Structural Steel Co., New York.

BETHLEHEM STEEL

MINIMIZE NOISE COMPLAINTS with G-E SOUND-RATED* BALLASTS



G-E engineer puts ballast through series of rigid tests. Constant attention to sound levels by G.E. helps you minimize the noise problem.

***SOUND-RATING:** G.E.'s new classification of ballasts to guide you in the correct application of fluorescent fixtures.

A new tool to help you build greater customer satisfaction

Every fluorescent ballast has a normal, magnetic hum. But now, for the first time, you can know the relative sound level of the ballast before you buy. For G-E engineers have pioneered a system for measuring ballast sound levels accurately. These measurements have led to six classifications: from "A"—extremely quiet, to "F"—quite audible. This means that you know, before installation, which ballasts are right for any given application—whether it be church, school, noisy factory area, or any one of a wide range of other locations.

Take the first step toward eliminating customer complaints about objectionable noise. Write for GEA-5672, a four-page bulletin which explains Sound Rating in detail. A reprint of recent technical information (GER-366) is also available. Write Section 412-94, General Electric Co., Schenectady 5, N. Y.

HOW G-E SOUND RATING WORKS

IF THIS IS YOUR APPLICATION...	...AND YOUR AVERAGE AMBIENT NOISE LEVEL IS HERE ...	USE A BALLAST WITH THIS SOUND RATING
Broadcast Studio, Church, Country Residence	20-24 decibels	A
Evening School, City Residence, Quiet Office	26-30 decibels	B
Average Residence, Public Library, Study Hall	32-36 decibels	C
Classroom, Professional Office	38-42 decibels	D
Noisy Residence, Business Office	44-48 decibels	E
Store, Noisy Office, Factories	50-62 decibels	F

*Average ambient noise levels in decibels, measured with standard 40-decibel weighting network.

GENERAL ELECTRIC

412-94

"Basically beautiful! That's one reason why clients appreciate Carrara Glass"

• America's leading architects specify Carrara Glass because it has sound advantages. Here is a wall material in which the elements of decoration are inherent. Available in a palette range of ten attractive colors, it is a basically beautiful product.

But it is more than that. It is a finely-machined material—just like fine Plate Glass. It is homogeneous in structure. Its surface is rich, flawless, brilliant. It is an everlasting material, precision manufactured, free from warpage. Its joints are true and even. There is no lippage. And it is easily handled.

If your designs highlight significant form and modern simplicity, Carrara Glass is ideal. And if they emphasize exceptional decorative appeal, Carrara Glass again is the perfect material. In essence, Carrara Glass combines ingratiating charm with serviceability.

Why not write today for complete information on the architectural possibilities of this truly *quality* structural glass? Address Pittsburgh Plate Glass Company, 2245-1 Grant Building, Pittsburgh 19, Pennsylvania.

Designed by Nathan B. Kaufman, Akron, Ohio.

the quality structural glass

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

What's Your HEATING PROBLEM?

Young "SH" Unit Heater

COLD SPOTS?

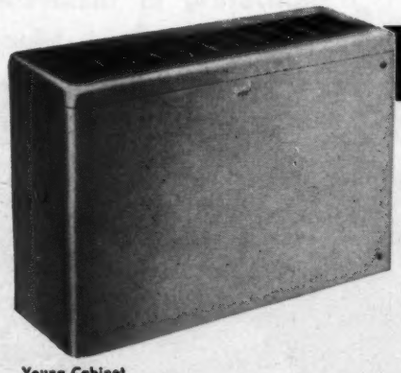
A favorite for general space heating and eliminating "cold spots" in large areas is the Young Type "SH" horizontal discharge unit heater. These non-ferrous-core units deliver maximum heat transfer . . . use quiet and efficient fans. Available in 14 sizes, with capacities ranging from 19,000 to 325,000 Btu per hour.

EXTRA HIGH CEILINGS?

Young "Vertiflow" Unit Heater

Patented "Vertiflow" design offers a rugged, compact, highly efficient unit with low hp requirement. Its exclusive motor "ventilation" feature eliminates burn-outs from core heat. Seven sizes range from 52,600 to 552,000 Btu per hour, and cover larger areas quicker, with fewer units. Diffusers, nozzles, and Anemostats provide any heat pattern desired.

DRAFTY AREAS?



Young Cabinet Unit Heater

Here's the ideal heating unit for lobbies, vestibules, auditoriums, etc. . . . wherever concentrated heating capacities are required and a compact, attractive exterior design is necessary. They are available in 3 sizes of each of 3 styles offering heating capacities ranging from 26,200 to 115,000 Btu per hour.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Young Quality

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Heating, Cooling, Air Conditioning Products for Home and Industry.

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Factories at Racine, Wisconsin and Mattoon, Illinois

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THIS COUPON BRINGS FULL DETAILS ON THREE SOLUTIONS TO HEATING DIFFICULTIES

YOUNG RADIATOR CO.

DEPT. 611-J,

RACINE, WIS.

Rush me information on the following Young Unit Heaters:

☐ "SH" ☐ "Vertiflow" ☐ Cabinet

Name_____

Company_____

Address_____

City_____ Zone____ State_____

Fire-Chex Green Shadow Blend Roof Design*

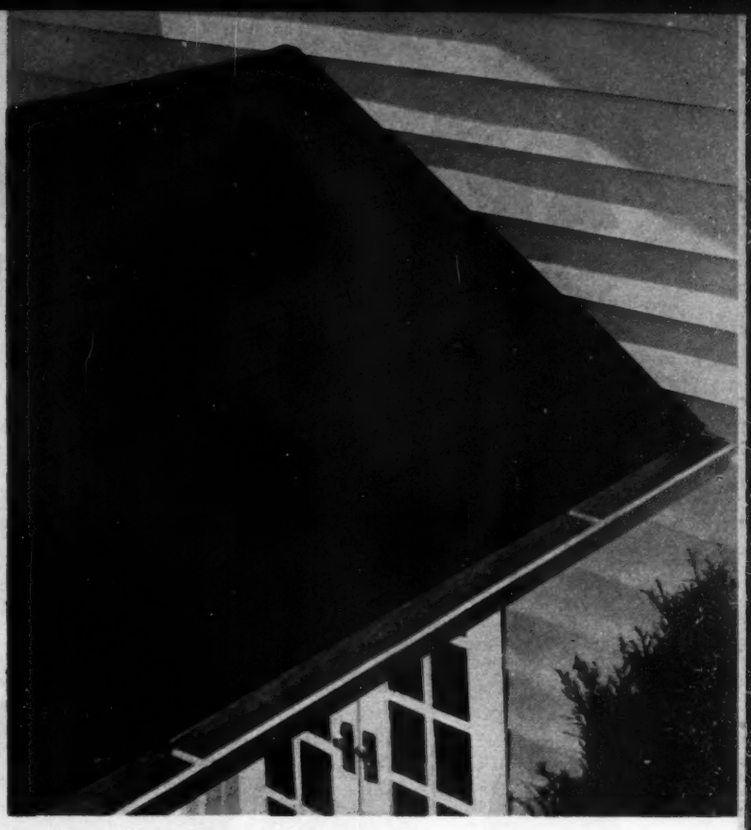
Fire-Chex Brown Shadow Blend Roof Design**

Carey Fire-

Fire-Chex Red Shadow Blend Roof Design*

Fire-Chex Gray Shadow Blend Roof Design*

Fire-Chex Velvet Black



Fire-Chex Chocolate Brown

Chex Shingles

an achievement in protection and beauty . . . featuring these unequalled advantages:

Fire-Protection

EXCLUSIVE Shadow Blend Designs

So much depends on your decision for roofing—fire safety, weather protection, beauty. That's why you'll want to consider the advantages of Carey Fire-Chex asbestos-plastic shingles for your next job.

Fire-Chex are the *only* shingles ever rated Class A† by Underwriters' Laboratories, Inc. This *highest* fire-protective rating was awarded Fire-Chex for their ability to deliver vital fire-protection, even when exposed to the heat and flames of a four-pound blazing wood brand!

What about *weather-protection?* Tested in regions of greatest weather severity, Fire-Chex outlasted all other types of roofing . . . were unaffected by scorching sun or sub-zero cold. They remained snugly anchored, resistant to rain, snow, sleet, wind and hail. No blistering, no warping, no curling!

You'll like the design opportunities exclusive with Fire-Chex, too! These exclusive shadow-blend roof designs—copyrighted as "works of art"—and handsome solid colors set new standards for color harmony and eye-filling beauty . . . "go well" with any style of architecture!

Fire-Chex asbestos-plastic shingles are made only by Carey. They have no equal, anywhere, for permanent fire-safety, weather-protection and beauty on buildings of all types. Write for complete information—or see your Carey dealer.

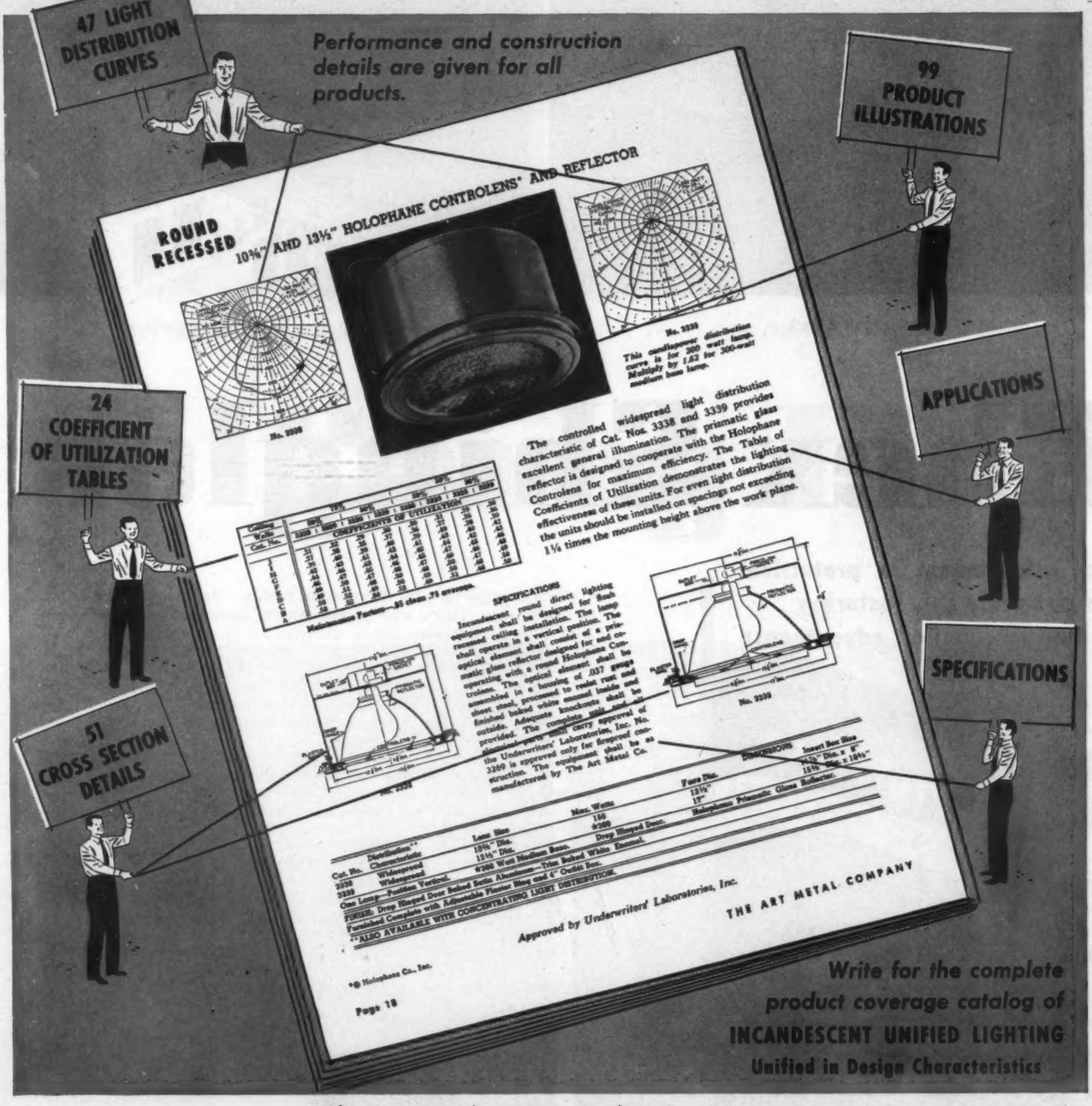
*Copyright 1949 **Copyright 1951
The Philip Carey Manufacturing Company
†Without asbestos underlayment

The Philip Carey Mfg. Company, Cincinnati 15, Ohio
In Canada: The Philip Carey Co., Ltd. Montreal 3, P. Q.

From the House of Carey—Fire-Chex Asbestos-Plastic Shingles • Bathroom Cabinets and Accessories • Fire-Guard Rock Wool Insulation • Ceramo Asbestos Cement Siding • Kitchen and Attic Ventilating Fans • Other Famous Products for Home, Farm and Industry

Carey

ART METAL gives explicit data to speed specification writing and installation planning for all types of INCANDESCENT LIGHTING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Performance and construction details are given for all products.
99 PRODUCT ILLUSTRATIONS
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24 COEFFICIENT OF UTILIZATION TABLES
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SPECIFICATIONS
51 CROSS SECTION DETAILS
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INCANDESCENT UNIFIED LIGHTING
Unified in Design Characteristics

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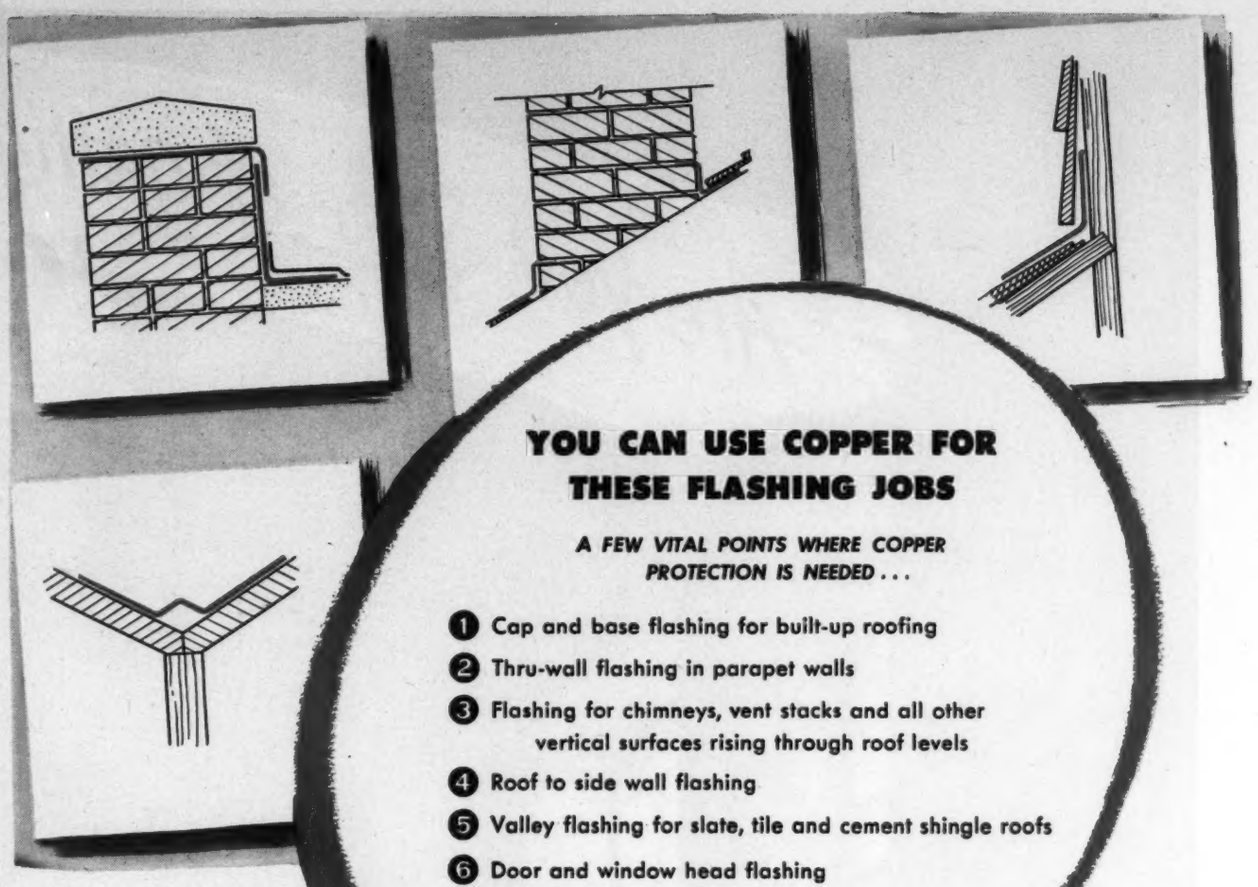
Manufacturers of Engineered Incandescent Lighting



YOU CAN USE COPPER FOR THESE FLASHING JOBS

A FEW VITAL POINTS WHERE COPPER PROTECTION IS NEEDED . . .

1. Cap and base flashing for built-up roofing
2. Thru-wall flashing in parapet walls
3. Flashing for chimneys, vent stacks and all other vertical surfaces rising through roof levels
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5. Valley flashing for slate, tile and cement shingle roofs
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You can use copper for most of your flashing jobs. Some of the important uses are listed above.

And Chase Flashing products are still best for any of your jobs. For thru-wall flashing you'll want to investigate the new Chase thru-wall flashing with an integral cap flashing receiver. It permits easy installation of cap flashing *after* the base flashing and roof are installed.

Send coupon below for the free new Chase Roofing Products Catalog.

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CHASE 75th ANNIVERSARY 1876 - 1951

New Chase Roofing Products Catalog gives complete information on copper flashing as well as general data on drainage and installation procedures.

Chase Brass & Copper Co., Dept. AR951
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CECO STEEL
In construction products CECO ENGINEERING

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You can depend on CECO Today...Tomorrow

Maybe you haven't worried about *where* you get steel windows, steel joists, steelforms and reinforcing steel, but in the uncertain times ahead, it's important that you take a critical look at the source of your supply. If you have used Ceco products, you know from both past and present experience that you have a supplier you can count on. If you have not used Ceco products, it will pay you . . . not only for today, but for tomorrow . . . to examine Ceco service.

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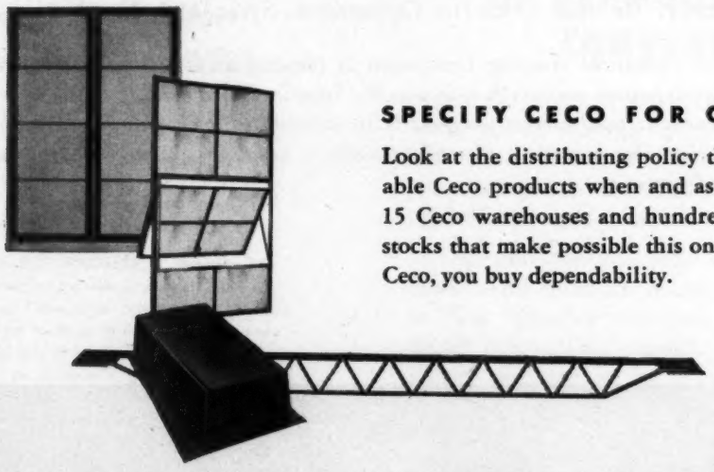

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Steel Windows and Doors • Steel Joists and Roof Deck
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Could you use a crystal ball?

The mill or factory you design today will probably look a lot different in a year or two. Production figures are shooting up. Plants must expand. Assembly lines will have to be changed.

That's why it's smart to specify Carrier blower-fan type Heat Diffusers for heating or ventilating factories, warehouses, armories, garages. They're built in sections and are easily switched from one position to another. You can set them on the floor, mount them from the ceiling or trusswork. Different types of discharge outlets, each with adjustable louvers, make it easy to redirect air to fit in with any changes in building design. Capacities up to 1,720,000 Btu's per hour and air handling capacities up to 25,000 cfm.

Your local Carrier representative is listed in the Classified Telephone Directory. Or write to Carrier Corporation, Syracuse 1, New York.

Carrier Industrial Heating Equipment is playing an important role in our present defensive actions just as was the case in World War II. This type of equipment is used almost universally to economically provide heat in plants producing war materials, as well as military buildings, barracks, Army and Navy Depots, etc.

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Carrier 46P Heat Diffuser. Sectionalized construction permits this vertical suspension type to double as floor model in any plant reconversion.

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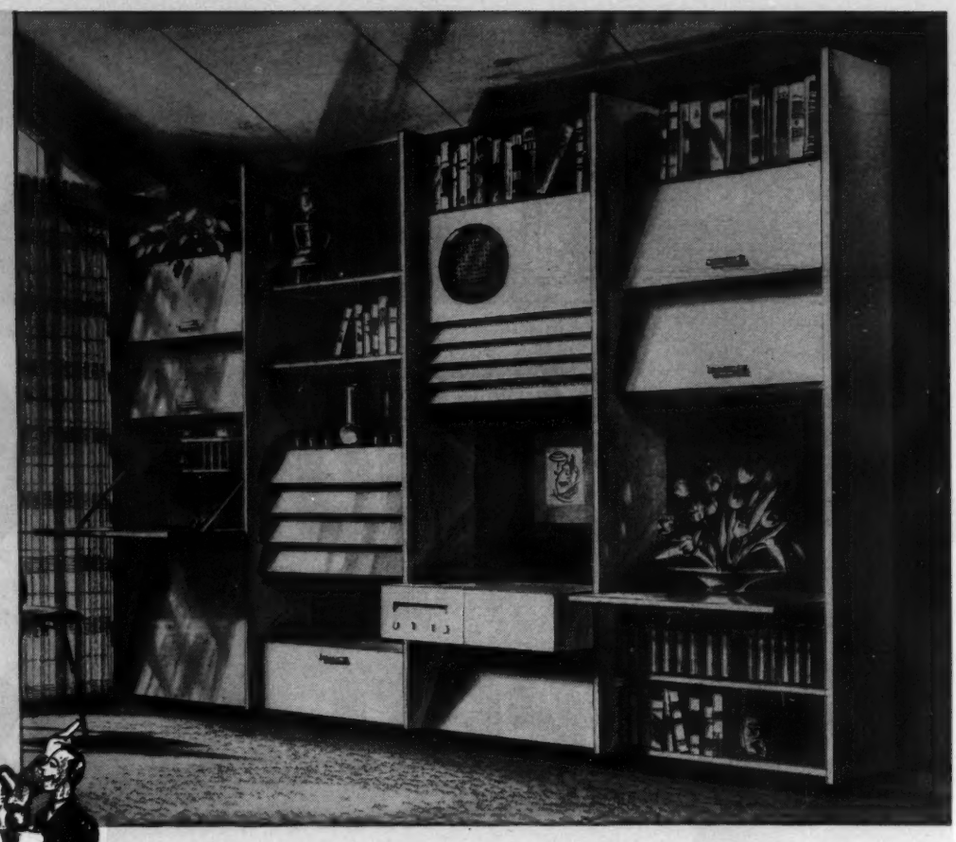
Carrier 46Q Heat Diffuser. Multiple discharge outlets and adjustable louvers direct heated air in any direction. Most flexible method of heating large areas.



Illustrated is an award-winning design by PROJECT designers and planners, New York, N. Y. It and other top designs from national architectural contest are in portfolio described below.

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LOGICAL MATERIAL . . . Cabinets for kitchen or hall . . . space-saving storage wall or built-in furniture—all call for big, easy-to-use plywood panels. It's split-proof, puncture-proof . . . easy to cut, fit and fasten. Plywood doors and drawers won't chip, rattle or dent. Can't rust.

NO "STOCK SIZE" PROBLEM . . . When builder or home owner plans with plywood, there are no restrictive "standard" elements. Plywood built-ins can be made to fit exact space and use needs. Takes any finish, too—plywood can be light-stained or painted in gay, modern color.

NATIONALLY ADVERTISED. . In October millions of home owners will read advertisements featuring plywood built-ins—part of a continuing campaign designed to help sell your customers.

TIE-IN MATERIAL . . . Tie-in your own promotion by ordering a supply of the new "Portfolio of Plywood Built-Ins"—a sales-starting collection of over 50 winning designs from the national "Better Living Home" architectural contest. In quantity, portfolios are $100 per 1,000. Imprinted add $9 for first 1,000, $4 each additional 1,000. Also available: newspaper ad mats featuring built-ins. One 2-column mat, two 1-column mats, 10c each. Write (USA Only) Douglas Fir Plywood Association, Tacoma 2, Wn.

TAKE A CUSTOMER'S EYE-VIEW OF PLYWOOD BUILT-IN CONVENIENCES

MOST OF YOUR CUSTOMERS have pretty definite ideas about storage space in their homes—there isn't enough of it! And that's exactly why built-ins are a natural sales-builder for you. Your customers agree: convenience sells!

Yes, convenience sells. Built-ins mean convenience. And built-ins mean plywood. It's as simple as that. Whether it be new construction or a home-owner remodeling project, built-ins are a month in, month out market for plywood.

Douglas fir plywood is America's busiest building material. It's far and ahead the number one choice for built-ins, too!

Large, Light, Strong Panels of Real Wood

Douglas Fir Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

A.C.I. Building Code has been revised!

Now engineering designers can take full advantage of the steel savings and lower construction costs possible with the new A305 reinforcing bars. The American Concrete Institute has just recently revised its "Building Code Requirements for Reinforced Concrete" to utilize the improved bonding strength of the A305 bar. The new requirements permit higher bonding stresses with the A305 bar and practically eliminate hook anchorage. As a result, the revised code makes possible even more durable reinforced concrete structures at a lower cost.

However, before you can share in these benefits, your local code must be changed to conform to the new A.C.I. standards. Take action now, to have your code modernized!

1. Higher Bonding Stresses Permitted

Because A305 bars have higher, more closely spaced lugs than older bars, they provide a greater bond between steel and concrete. The code was changed to permit use of this improved bond.

2. Hook Anchorage Eliminated

Because of higher bonding strength, the need for end hooks is eliminated in practically all cases, and steel and fabrication costs are reduced.

3. Lapping Reduced

Higher bond strength also increases the efficiency of splices, reducing the steel required.

CONCRETE REINFORCING STEEL INSTITUTE

38 S. Dearborn St.
Chicago 3, Ill.

Does your local Code CONFORM?

A. I. A. FILE #23-D

Kentile functional flooring designs increase commercial efficiency

By speeding and directing traffic flow. Directional lines set in the floor with *Kentile Feature Strip* provide lanes that immediately show customers where to go...how to get there.

By easy-to-see identification. Merchandise counters, departments and sections can be clearly marked with *Kentile Alphabet Inserts* spelling out the appropriate name. *Kentile Numeral Inserts* effectively indicate floor numbers on elevator banks. Die-cut, decorative *ThemeTile* add a distinctive, individual air to any floor... can be used to pictorially identify a wide range of installations. *Custom-built Inserts* can be made up to any specification to identify units in a chain; picture corporate trade marks; etc.

Low-cost Kentile Floors are easy and economical to install and maintain...they go down tile by tile without costly interruption to "business as usual." And no floor is easier to care for...mild soap and water cleaning plus occasional no-rub waxings preserve the colorful beauty and crisp definition for years of hard, constant wear.

The following literature is available on request and is designed to aid in the specifying of floors and walls for residential, commercial or industrial building or remodeling.

- ☐ Architects Specifications
- ☐ 16 Page Catalog—includes 4-color photos of Kentile installations
- ☐ Color Line Folder
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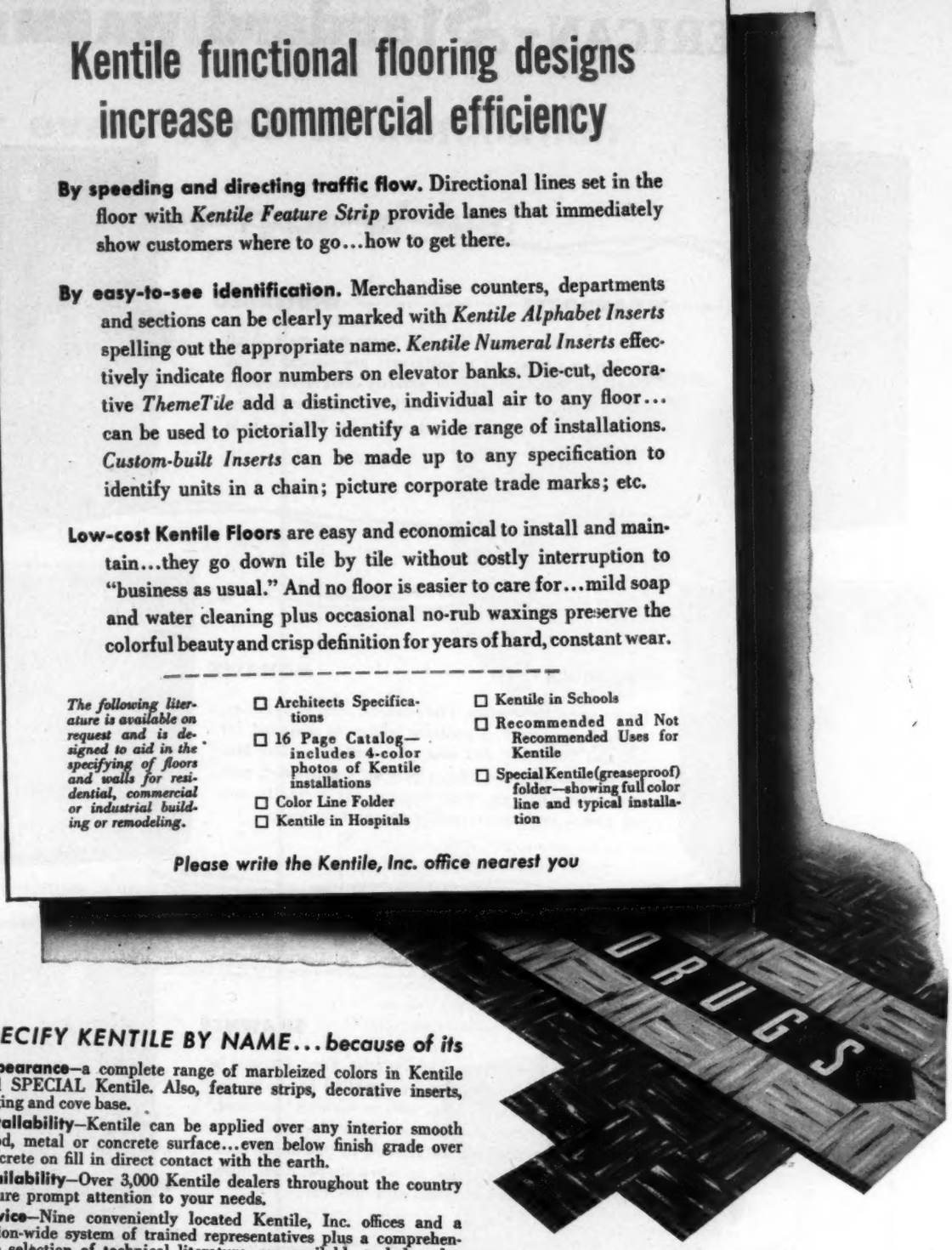
- ☐ Recommended and Not Recommended Uses for Kentile
- ☐ Special Kentile (greaseproof) folder—showing full color line and typical installation

Please write the Kentile, Inc. office nearest you



✓ ***SPECIFY KENTILE BY NAME...because of its***

...**appearance**—a complete range of marbleized colors in Kentile and SPECIAL Kentile. Also, feature strips, decorative inserts, edging and cove base.

...**installability**—Kentile can be applied over any interior smooth wood, metal or concrete surface...even below finish grade over concrete on fill in direct contact with the earth.

...**availability**—Over 3,000 Kentile dealers throughout the country assure prompt attention to your needs.

...**service**—Nine conveniently located Kentile, Inc. offices and a nation-wide system of trained representatives plus a comprehensive selection of technical literature, are available to help solve any flooring problem.

...**low cost**—Installed prices are lower than those of practically any flooring material; varying with size and condition of floor; colors and thicknesses chosen and freight rates. Accurate estimates are available from any Kentile dealer—listed under FLOORS in your classified phone directory. In Canada at T. Eaton Co. Ltd.

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The Asphalt Tile of Enduring Beauty

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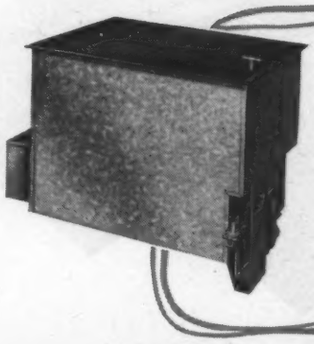
AMERICAN-Standard WARM AIR

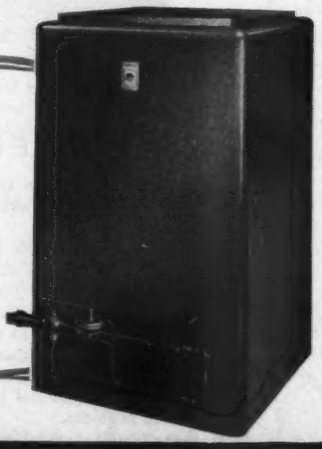
WYANDOTTE **WINTERGLO**

For utility rooms, closets, alcoves. These two steel "high boy" type winter air conditioners are typical of the American-Standard line of smartly-designed heating units for small homes and individual apartments. The Wyandotte is a gas fired unit, while the Winterglo is designed for oil firing.

WINTERWAY **MOHAWK**

For basement installations. The steel, oil fired Winterway, popular for small to medium homes, is designed for unusual flexibility and ease of installation. The Mohawk, a de luxe cast iron winter air conditioner, provides automatic gas fired heating for virtually any size home. Both are typically compact in design.





NAVAHO **SHAWNEE**

For low-cost installations. The Navaho floor furnace is compact and shallow, can be installed easily in the floor of any small building, with or without basement, and does not require excavation. The Shawnee warm air furnace is ideal for installation in basements used as game rooms, laundries, or work shops. Both units burn all gases efficiently and economically.

AMERICAN-Standard

First in heating...first in plumbing

HEATING EQUIPMENT

. . . for every type of installation

. . . for every type of fuel

■ Choose American-Standard warm air heating equipment for basement installations or for small-space installations such as utility rooms, closets and alcoves. You'll find units in the American-Standard line that will fill the bill exactly. For American-Standard warm air heating equipment includes a wide variety of types, sizes and models of warm air furnaces and winter air conditioners —designed to burn gas or oil or coal—plus the new Mayfair Summer Air Conditioner and the electronic Magne-filter Air Cleaner.

This completeness of line is one reason American-Standard warm air heating equipment is used on so many jobs. It allows the widest possible latitude in designing and planning. And, too, American-Standard products are recognized for their engineering and construction advantages . . . for long life and dependability in service.

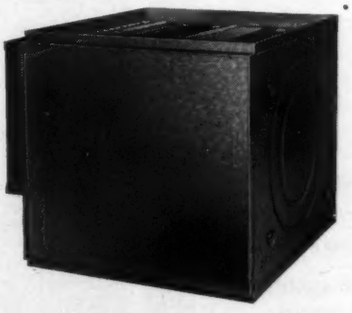
You can depend on American-Standard warm air heating equipment to do the job *right.*

MAYFAIR

For summer cooling. The Mayfair summer air conditioner, latest addition to the American-Standard line, converts forced warm air heating system to year 'round conditioning. It uses same duct system . . . mechanically cools and dehumidifies the air.

MAGNE-FILTER

For clean air year 'round. The electronic Magne-filter air cleaner, installed in the return duct of *any* winter or summer air conditioning system, traps even the smallest dirt particles, removes pollen, air-borne bacteria, dust and smoke.



American Radiator & Standard Sanitary Corporation · P. O. Box 1226, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

Dark Oriental Walnut CONSOWELD facings and Rust Mellow-tone CONSOWELD top add warmth, beauty and utility to the Hotel Mead guest-service desk . . . wed happily with other materials (floor tile in foreground, cork on right, polished granite on left). CONSOWELD is hard at work elsewhere in this new hotel: on cupboard doors (rear); dining room tables and service units; cocktail tables, bar and back-bar surfaces; lobby tables and doors; guest room doors, baths and desk-dresser units.

Welcomed...without reservation!

It seems like hotel people – designers, builders and owners alike – were waiting for a material just like CONSOWELD.

CONSOWELD was tried, then welcomed without reservation because it brought important *plus values* to everyone professionally interested in hotel design, construction and operation. More than 40 striking colors and patterns and lengths up to 16′ gave CONSOWELD a long-sought design and decorating flexibility, which was solidly backed up by CONSOWELD's almost incredible resistance to scratches, stains or any kind of wear.

Builders were impressed at the ease with which CONSOWELD *goes* down and *stays* down–were delighted to find that CONSOWELD installations are complaint-free. CONSOWELD won approval from hotel owners and operators by its beauty–changed approval to enthusiasm as it kept its good looks year after year with *no maintenance.*

CONSOWELD—perfect for public performance

Wherever your designs must *meet the public*–hotels, restaurants, stores and offices, governmental buildings, schools, hospitals, institutions and other structures–CONSOWELD surfaces warrant your careful consideration. For design flexibility, ease of installation and years of "no-maintenance" service specify CONSOWELD–*good for a colorful lifetime!*

Commercial • Industrial • Institutional • Residential

All 4 call for **CONSOWELD**

CONSOWELD, Box 50, Wisconsin Rapids, Wisconsin
Without cost, please send me—
- ☐ CONSOWELD Room Planning Guide
- ☐ CONSOWELD Color-Ring samples
- ☐ CONSOWELD installation data

Additional quantities of these items available upon request

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CONSOWELD
decorative
LAMINATES
surfaces of enduring beauty

Consolidated Water Power & Paper Company—manufacturers of CONSOWELD Laminates and *Consolidated* Enamel Papers, Wisconsin Rapids, Wisconsin

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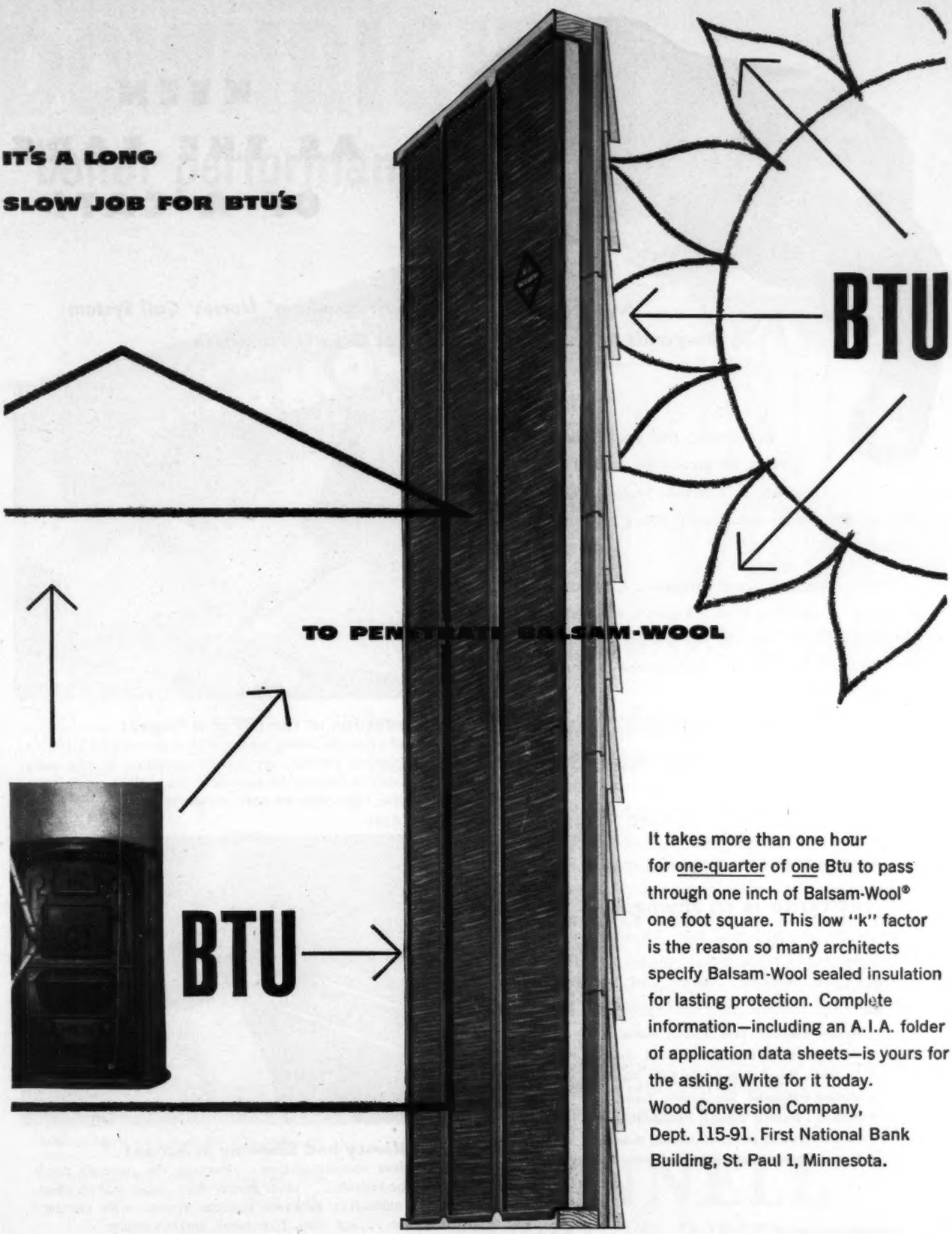
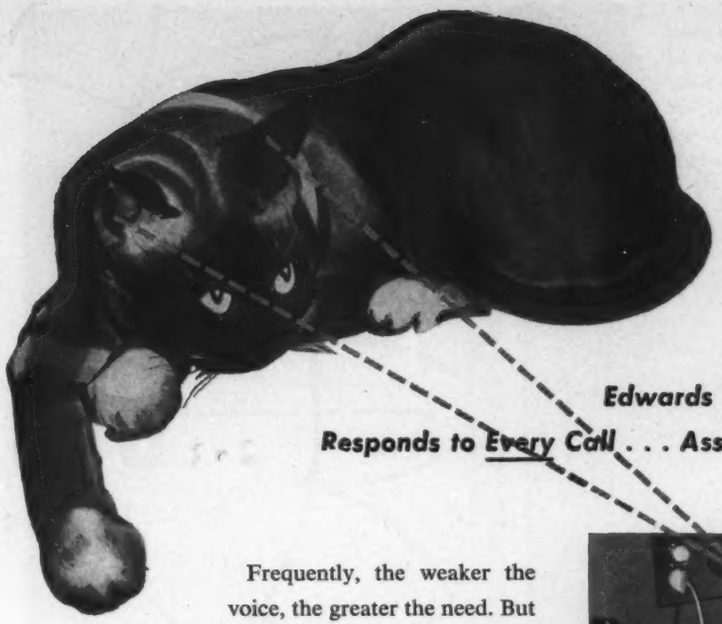


It takes more than one hour for one-quarter of one Btu to pass through one inch of Balsam-Wool® one foot square. This low "k" factor is the reason so many architects specify Balsam-Wool sealed insulation for lasting protection. Complete information—including an A.I.A. folder of application data sheets—is yours for the asking. Write for it today. Wood Conversion Company, Dept. 115-91, First National Bank Building, St. Paul 1, Minnesota.

balsam-wool

Sealed Insulation—A Product of Weyerhaeuser



KEEN AS THE EARS OF A CAT!

Edwards "Soft Speaking" Nurses' Call System

Responds to Every Call . . . Assures Greater Protection

Frequently, the weaker the voice, the greater the need. But with an Edwards Nurses' Call System you can be sure every patient's call will be answered.

This outstanding system, product of Edwards' 79 years in signaling, is so sensitive it will pick up, transmit and amplify any patient's voice, regardless of how faint . . . and from any position in the room!

Write Department A-9 for free bulletin today. Learn why it pays . . . in greater protection, efficiency and economy . . . to make sure *your* Nurses' Call System is engineered by Edwards, oldest and most trusted name in signaling. Edwards Company, Inc., Norwalk, Conn.

THE TREND IS TO EDWARDS

From Maine to California, from Minnesota to Texas, more and more new hospitals specify Edwards "Soft Speaking" Nurses' Call System. Here are a few of many current installations:

- **Harbor Hospital, York Harbor, Maine.**
- **Good Samaritan Hospital, Portland, Oregon.**
- **St. John's Hospital, Red Lake Falls, Minn.**
- **Memorial Hospital, San Angelo, Texas.**
- **Women's Medical College, Philadelphia, Pa.**
- **Garfield County Hospital, Jordan, Montana.**
- **National Institute of Health, Bethesda, Md.**

Protection at the Lift of a Finger!

The mere touch of a bedside button activates the supersensitive Edwards wall speaker . . . assures prompt, appreciated attention. At the same time, greater privacy is assured because only the patient can initiate conversation. Signal light stays on until button is reset.

Efficiency and Economy in Action!

Instant, crystal-clear communication . . . learning the patient's needs *before* going to the bedside . . . saves nurses' time, steps, wasted effort. . . . Reliable, trouble-free Edwards systems operate with standard hospital accessories . . . are trim, functional, smart-looking.

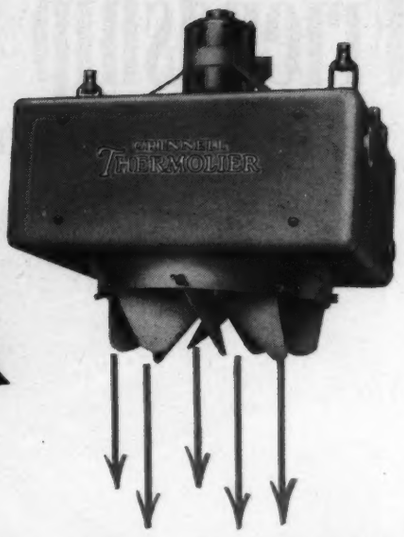
EDWARDS®

World's Most Reliable Time, Communication and Protection Products

DOWNRIGHT

better performance

Vertical Delivery
THERMOLIER
Unit Heaters . . .



RIGHT DOWN

where maximum heat is desired...

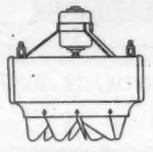
in warehouses, plants and other hard-to-heat buildings

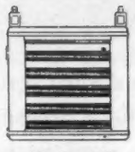
HEATING COMFORT AND ECONOMY. Heat is forced down to the working level . . . not banked uselessly at the ceiling level. Thermoliers provide quick heating from a cold start. Desired room temperatures are easily maintained within a close range.

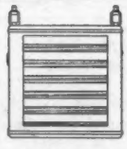
ADAPTABILITY TO EQUIPMENT AND FLOOR LAYOUT. The units and the simple piping are overhead where they do not interfere with arrangement of operating machinery or equipment and do not take up valuable floor or wall space. Units are easily relocated at any time to meet changes in plant layout or heating requirements.

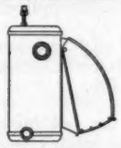
LOW FIRST COST. Thermoliers are so efficient and so compact that their heating capacity is often equivalent to the capacity of cast iron radiation or pipe coils of twice the cost.

4 MODELS . . . . . 18 SIZES


Vertical Delivery


Horizontal Delivery


Textile Model


Velocity Nozzle

A thermostatic trap, the simplest and least expensive of all traps, is practical because of Thermolier's exclusive cooling leg.

Maximum capacity assured, annoying destructive water hammer eliminated — by built-in pitch of tubes and internal cooling leg which assure continuous drainage of condensate.

Damaging strains caused by expansion and contraction eliminated by "U" type expansion tubes.

Safety and durability assured with leak-proof tube-to-header construction.

Five other important construction features. Write for Thermolier Catalog.

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WHENEVER PIPING IS INVOLVED

Grinnell Company Inc., Providence 1, Rhode Island • Sales Offices and Warehouses in Principal Cities

pipe and tube fittings • welding fittings • engineered pipe hangers and supports • Thermolier unit heaters • valves
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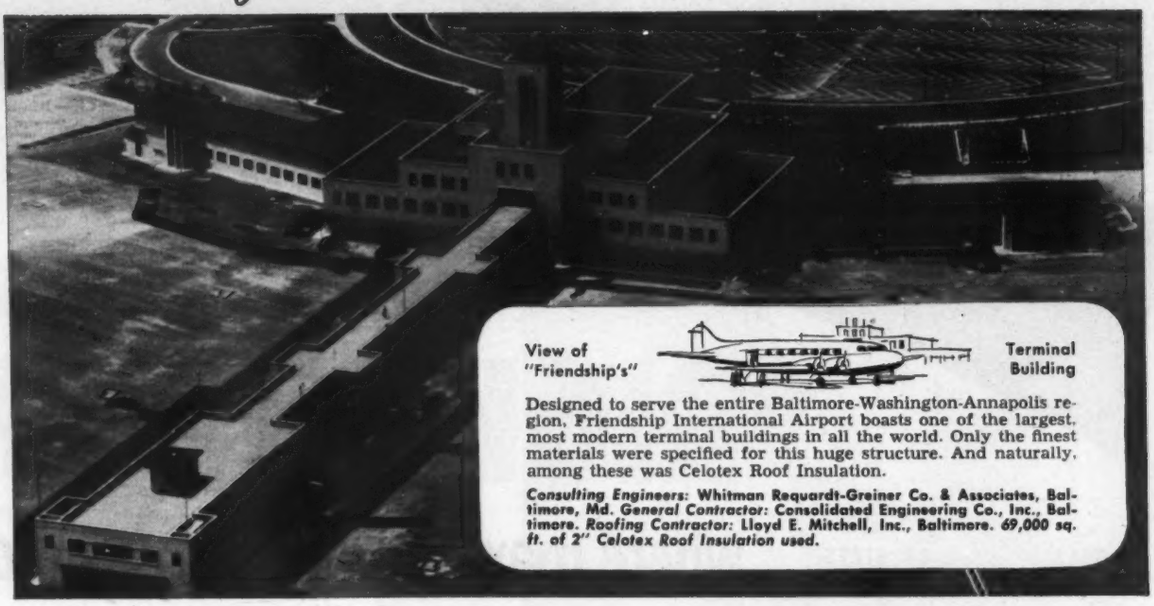
industrial supplies • Grinnell automatic sprinkler fire protection systems • Amco humidification and cooling systems

Baltimore's Giant New

Friendship International Airport

Specified CELOTEX ROOF INSULATION



View of "Friendship's"

Terminal Building

Designed to serve the entire Baltimore-Washington-Annapolis region, Friendship International Airport boasts one of the largest, most modern terminal buildings in all the world. Only the finest materials were specified for this huge structure. And naturally, among these was Celotex Roof Insulation.

Consulting Engineers: **Whitman Requardt-Greiner Co. & Associates, Baltimore, Md.** ***General Contractor:*** **Consolidated Engineering Co., Inc., Baltimore.** ***Roofing Contractor:*** **Lloyd E. Mitchell, Inc., Baltimore.** ***69,000 sq. ft. of 2" Celotex Roof Insulation used.***

Actual performance on the job . . . over a long period of years. That's the one, the *only* true test of roof insulation! And no other brand can challenge the JOB-PROVED record set by Celotex Roof Insulation. A record for top quality, long service, true economy . . . through *over a quarter century of actual use* in all types of installations, all over the country!

Celotex Roof Insulation is low in initial cost, easy to handle, exceptionally durable. Helps assure a superior, long-lasting roof that requires less maintenance. Preferred by roofers because it resists damage from job handling—is quickly applied.

So don't take chances with unproved materials. For complete satisfaction, always specify genuine Celotex Roof Insulation! There's a type to meet every job requirement. Write today for application specifications. The Celotex Corporation, Dept. AR-91, Chicago 3, Illinois.

Only Celotex Roof Insulation offers all these advantages

1. High Insulating Efficiency means greater comfort the year 'round, plus reduced heating and air conditioning costs.

2. Low in Cost: both initial and applied.

3. Quick to Apply: installed with less time, work and cost because it's light and easy to handle. Strong and rigid—doesn't have to be "babied" on the job.

4. Provides Excellent Bond for hot mopped roofing felts of either the asphalt or coal tar pitch type.

5. Durable, Long-Lasting. It is the *only* roof insulation made of long, tough Louisiana cane fibres—and protected by the *exclusive* (patented) Ferox® Process against dry rot, fungus and termites.

There's a type of Celotex Roof Insulation for every job

REGULAR—for efficient insulation at lowest cost.

PRESEAL—with asphalt coating for extra moisture protection. Has a conductivity "k" of 0.33 Btu before coating.

PRESEAL "30"—with asphalt coating; special low density core; guaranteed 0.30 conductance before coating for nominal 1" thick material.

VAPOR-SEAL—with asphalt coating; guaranteed 0.30 Btu conductance before coating for nominal 1" thick material. Patented recessed edges form channels which help prevent roof blisters by equalizing pressure of air trapped under roofing.

It pays to specify genuine **CELOTEX** **roof insulation**

REG. U. S. PAT. OFF.

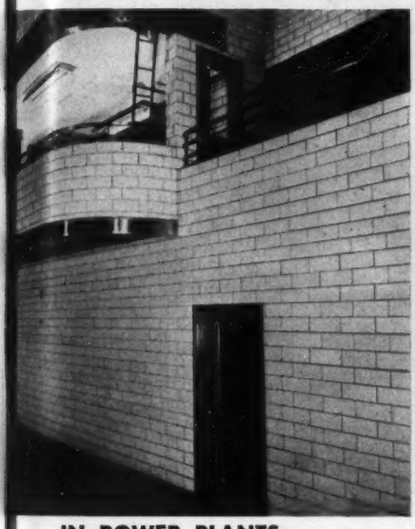
THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

ANY TYPE ANY DESIGN ANY PURPOSE

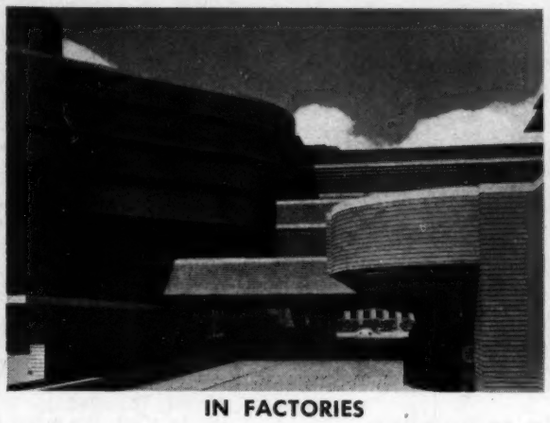
You build essential buildings better

with BRICK and TILE!

... made of non-critical clay



IN POWER PLANTS



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IN SCHOOLS

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Detroit, Michigan 2671 Ewald Circle, Apt. 2	Webster 5-2433
Pittsburgh 22, Pa. 902 Standard Life Bldg.	Atlantic 1-6393
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What type buildings are you planning?

Defense plants, schools, hospitals, research laboratories, or power plants... you can build *any* essential building better with Brick and Tile.

At the same time you can help conserve the *vital* raw materials now under the Controlled Materials Plan regulations.

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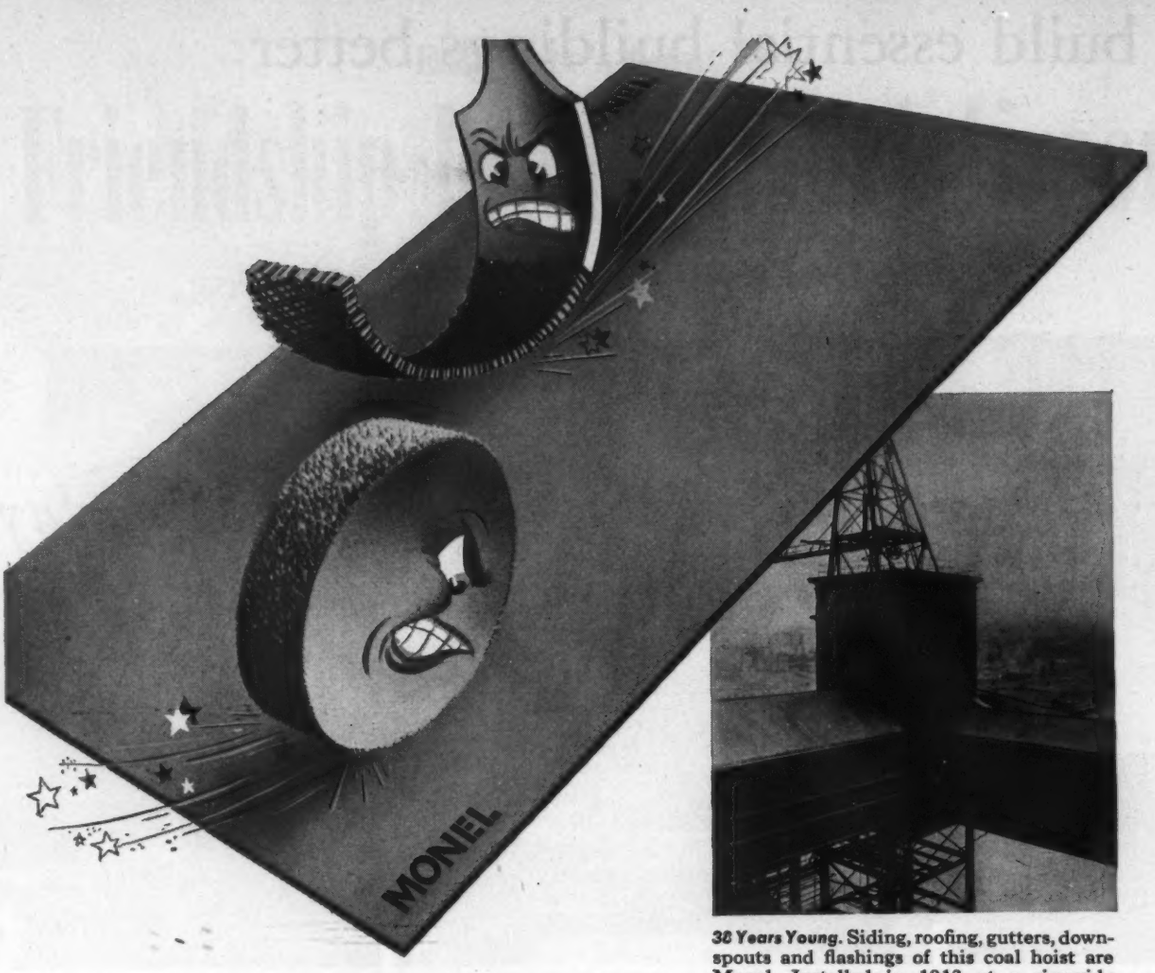

A roofing sheet to remember...

38 Years Young. Siding, roofing, gutters, downspouts and flashings of this coal hoist are Monel. Installed in 1913 at a riverside power plant, the metal is still in excellent condition.

for protection against wear and abrasion!

Look out! There's trouble in the air!

Maybe it's dust or dirt. Maybe it's cinders or fly ash.

Whipped in by wind – and washed around by rain – these trouble-makers gang up on a roof.

But they don't get far against roofs made of Monel®!

For Monel is stronger and tougher than structural steel. It can *never* rust. Its smooth, hard surfaces not only resist erosion; they withstand even the abrasive, wearing action of sliding snow and ice.

Right now – because of the demand for nickel and nickel alloys in the defense program – Government orders prohibit use of Monel for building applications.

But the time will come again when there is enough Monel available for normal roofing needs! Meanwhile, let INCO help you in planning for the future. Call on our Architectural Section for the latest technical information and literature.

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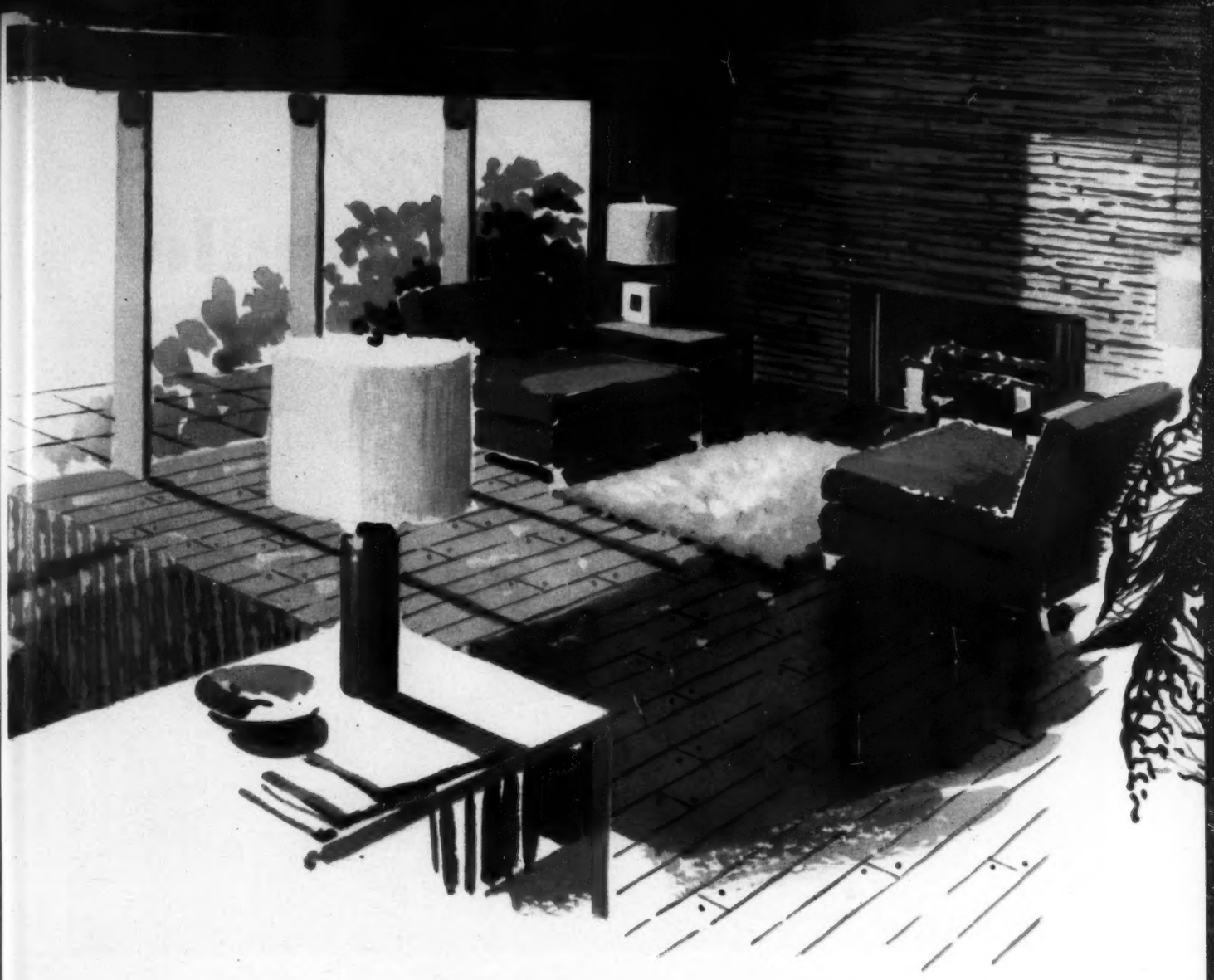
INCO TRADE MARK **MONEL** ..."*For the Life of the Building*"



EVERYBODY LIKES

Bruce Ranch Plank Floors

Pegged and Finished at the Factory

There has been more unsolicited praise for Bruce Ranch Plank than for any hardwood floor introduced by Bruce in the past twenty years. And there are several good reasons for this:

(1) It's a distinctive hardwood floor, yet costs very little more installed than regular strip flooring. (2) Alternate 2¼" and 3¼" oak strips, with walnut pegs, give the charm and individuality of a custom-built floor. (3) Bruce Ranch Plank is pegged and finished at the factory, and is easily installed by blind nailing.

This popular floor gives added style and decoration to homes in all price ranges. Architects and decorators have approved it for modern and traditional styles. Write for color booklet or consult Sweet's Files. E. L. BRUCE CO., MEMPHIS 1, TENN.

BRUCE

Other Bruce Products: Block and Strip Flooring • Lumber Terminix • Bruce Floor Cleaner, Waxes, Finishes

The Strongest Bond
is Universal·Rundle

Insures enduring service and beauty in fixtures *nationally* advertised by U/R!

You can sell and install Universal-Rundle bathroom fixtures with complete confidence that they will serve your customers long and well! You know they will offer lifetime resistance to chipping and cracking, that surfaces will stay sparkling bright—thanks to the strongest of bonds between sturdy fixture body and surface. Universal-Rundle's famous "lifetime" bond is the result of such exclusives as—

1. *U/R-developed processes like the one-fire Hi-fire method of firing vitreous china; U/R's "know-how" in preparing cast iron for enameling.*
2. *Longer firing periods, higher temperatures.*
3. *Half a century of fixture-making experience.*

Big and Beautiful as the fixtures they display, are the four-color advertisements in the SATURDAY EVENING POST and BETTER HOMES & GARDENS that tell the U/R quality story to buying millions.

Have you seen the new U/R catalog? It shows the complete line of bathroom and kitchen fixtures—plans, drawings, specifications, helpful information for plumbers. Write for it. (See the U/R line in Sweet's Builders File, also.)

White as White itself! Actual scientific measurement of light reflectance shows U/R's Arctic White as whitest—over 80% reflectance.

The Color of Quality! As the originator of colored bathroom fixtures, U/R still makes the finest—matched closer than the eye can see.

Install with Confidence. When you recommend Universal-Rundle fixtures half a century of experience stands behind your every installation.

This is Universal-Rundle . . . the pioneer of many industry "firsts"; colored vitreous china, one-fire tunnel-kiln firing, complete laboratory control of production, and many others.

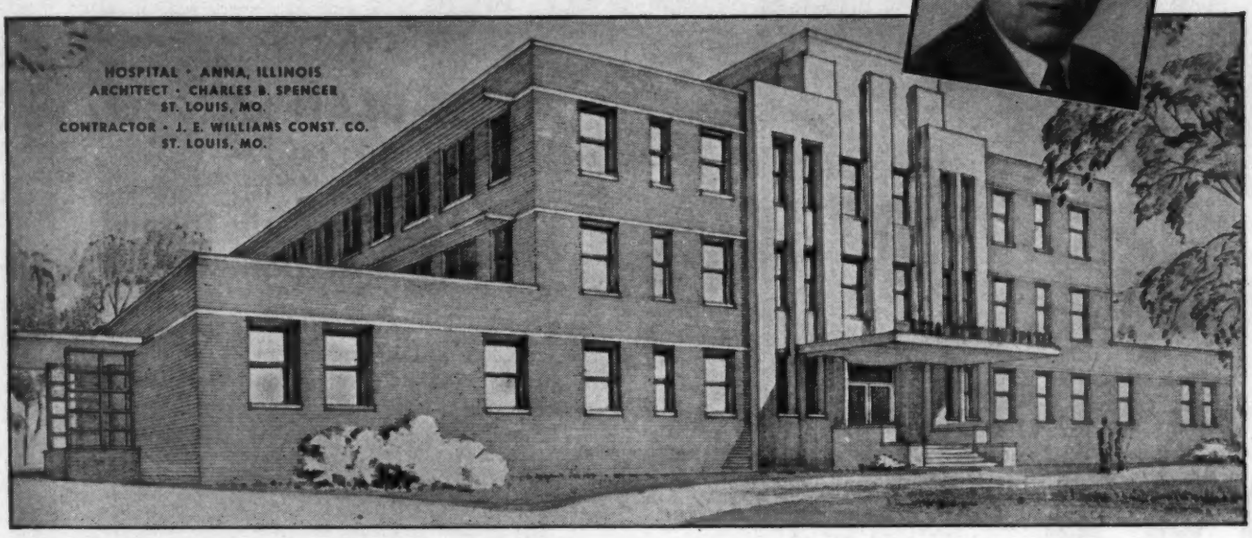
Universal·Rundle

UNIVERSAL-RUNDLE CORPORATION, DEPT. 13, NEW CASTLE, PENNSYLVANIA

Plants in Camden, N. J.; Milwaukee, Wisc.; New Castle, Pa.; Redlands, Calif.; San Antonio and Hondo, Texas

"WE SAVED HOURS OF TIME BY SPECIFYING KNAPP METAL TRIM FOR THIS HOSPITAL!"

Writes Mr. L. W. Penn, Chief of Technical Services of the firm of Charles B. Spencer, St. Louis, Mo.



Mr. Penn, Chief of Technical Services for the firm of Charles B. Spencer, St. Louis, Mo., takes pride in selecting the proper trim for the buildings the firm designs. Mr. Penn knows that he can count on Knapp Products to meet his exacting requirements. Knapp is accustomed to handling metal trim specifications that demand the highest quality products—and have been for over half a century. They have continued to study every problem of design, quality and practical usability of their product.

FILL ANY BUILDING NEED

Today, as always, the Knapp line offers standard items of guaranteed precision and quality to satisfy the strictest, most exacting architectural specifications for virtually every metal trim requirement. In custom made, metal trim specialties, too, Knapp standards are second to none.

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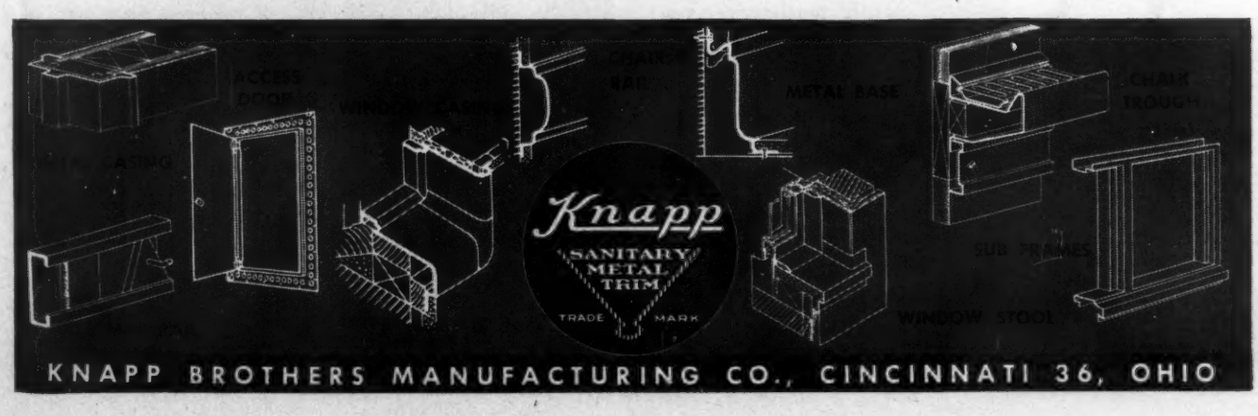

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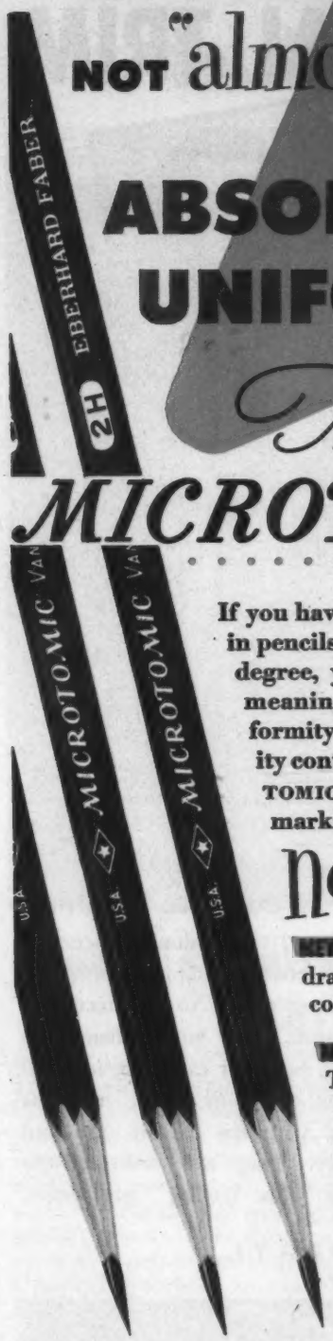

If you have ever found a variance in pencils stamped with the same degree, you will appreciate the meaning of MICROTOMIC uniformity. Newly developed quality controls make *every* MICROTOMIC of the same degree marking identical.

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NEW DUSK GRAY...hundreds of draftsmen said it was the best color for a drawing pencil!

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The degree is marked on 3 sides—never out of sight!

NEW PRINT CLARITY...Hi-Density lines that are exceptionally opaque to the actinic rays of high-speed 'printers'...dead-white, feather-free, no-blur lines!

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Fewer loose, smeary graphite particles in MICROTOMIC lines!

TRY THE "3-against-3" test

Test 3 All-New Microtomics against 3 of your present drawing pencils. *Find out* what brand is more uniform. Your Dealer has MICROTOMICS. Order some—test them—today!

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Use this ERIE-PLAN to simplify *Architectural* Porcelain Enamel Installations

The ERIE-PLAN does not interfere with your freedom of building design or complete control of every factor of construction but *does* provide a complete service on the manufacture and erection of architectural porcelain enamel that relieves you of burdensome detail and responsibility.

1. ERIE provides all shop details of metal work.
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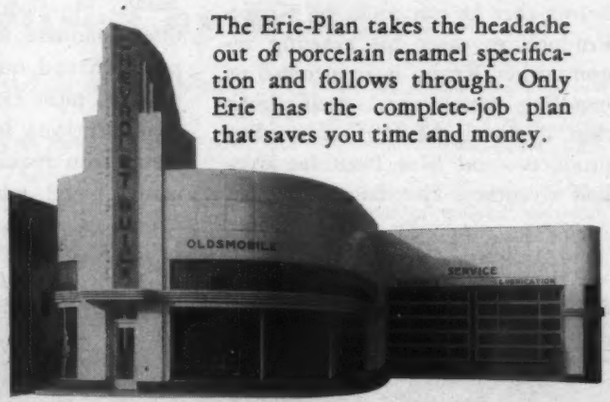
The Erie-Plan takes the headache out of porcelain enamel specification and follows through. Only Erie has the complete-job plan that saves you time and money.



WRITE for full information on your specific job and see us in Sweet's.

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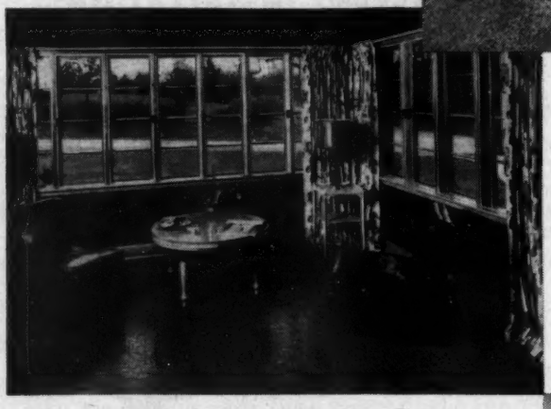
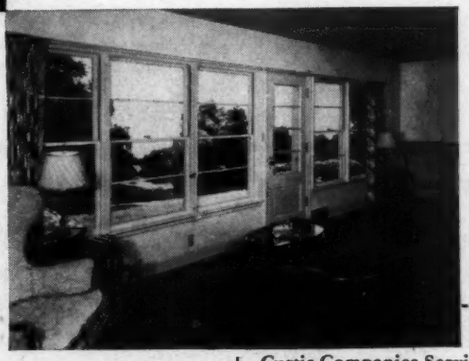
there's more to a view than meets the eye!

FOR INSTANCE—quality that the home-owner never sees is built into Curtis Silentite windows. The double-hung Silentite windows which flank this big Curtis picture window have the famous "floating" weatherstrips that assure a snug fit, yet permit easy operation. There are spring bronze leaf type weatherstrips at the meeting rail and also at the bottom rail. Double "Z" type spring bronze weatherstrips at the sides give uniform pressure on both sides of the window in all positions of opening.



TROUBLE-FREE CASEMENTS—Tests made by a nationally known independent laboratory show that Silentite wood casements will reduce by 16.4% the heat loss that usually occurs with ordinary casements, under comparable conditions. Silentite casements are the most weathertight casements made. They will not stick, bind or warp. The sash cannot rattle or vibrate, cannot swing in the wind. Condensation is reduced to the minimum by the use of insulating glass. Screens are furnished.

QUICK INSTALLATION—Because Silentite double-hung windows are precision-made, they can be installed in an average time of 3 minutes per opening. Silentite units provide easy operation, which they maintain throughout their lifetime. Each part of Silentite is specially designed with relation to all other parts so that all parts harmonize perfectly and fit properly. Remember, the Silentite window is a *complete* unit, consisting of frame, sash, lock, trim, screen and storm sash.



Complete technical information about Curtis Silentite windows and Curtis Woodwork is yours for the asking—mail the coupon!

1865 CURTIS WOODWORK SILENTITE PRE-FIT the *Insulated* window

Curtis makes a complete line of architectural woodwork for the modern home. Make your next house "all Curtis."

Curtis Companies Service Bureau
AR-9S Curtis Building, Clinton, Iowa

Gentlemen:

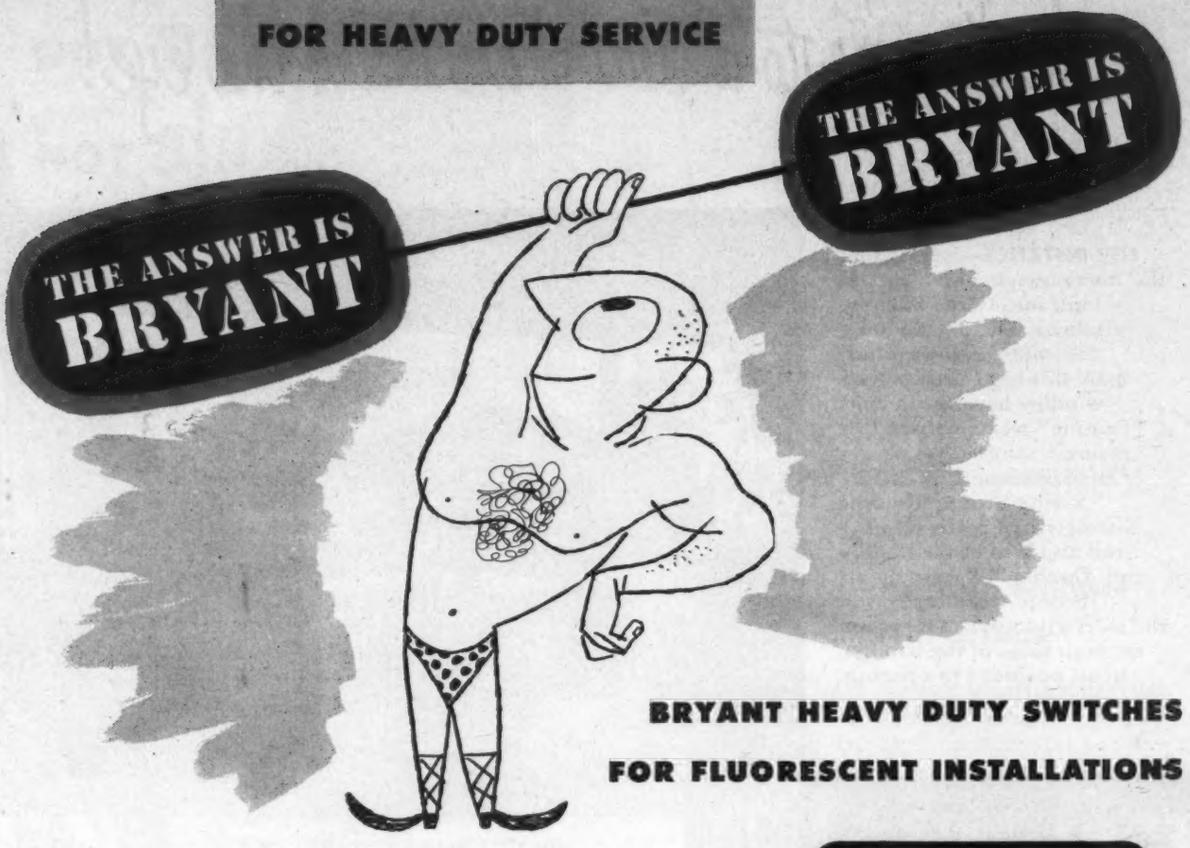
I want to know more about Curtis Silentite Windows. Please send me your free window booklet. I am ( ) Architect ( ) Contractor ( ) Prospective Home Builder ( ) Student. (Please check above.)

Name.....

Address.....

City.....*State*.....

FOR HEAVY DUTY SERVICE



BRYANT HEAVY DUTY SWITCHES FOR FLUORESCENT INSTALLATIONS

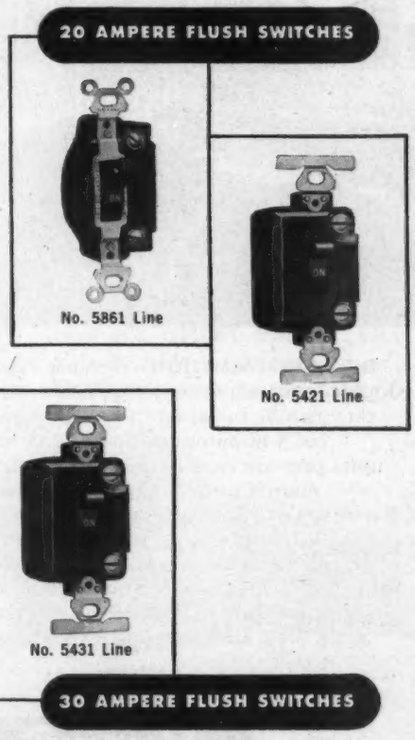
Fluorescent lighting circuits are of the inductive type . . . so it is highly important that **heavy duty switches** control these circuits . . . switches that can easily handle heavy loads.

Bryant 20 and 30 ampere switches, designed for service in industrial, institutional and commercial installations where severe loads are encountered, will give long, trouble-free performance.

NO. 5861 LINE—Bakelite enclosed cups (1-15/32" deep) in single pole, double pole and 3-way types, with brown and ivory handles. Also available in lock and momentary contact types.

NO. 5421 LINE—Bakelite enclosed cups (1-15/16" deep) in single pole, double pole, 3-way and 4-way types, with brown handles. Also available in lock type.

NO. 5431 LINE—Bakelite enclosed cups (1-15/16" deep) in single pole, double pole, 3-way and 4-way types, with brown handles. Lock type also available.



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BRYANT
SUPERIOR WIRING DEVICES

THE BRYANT ELECTRIC COMPANY

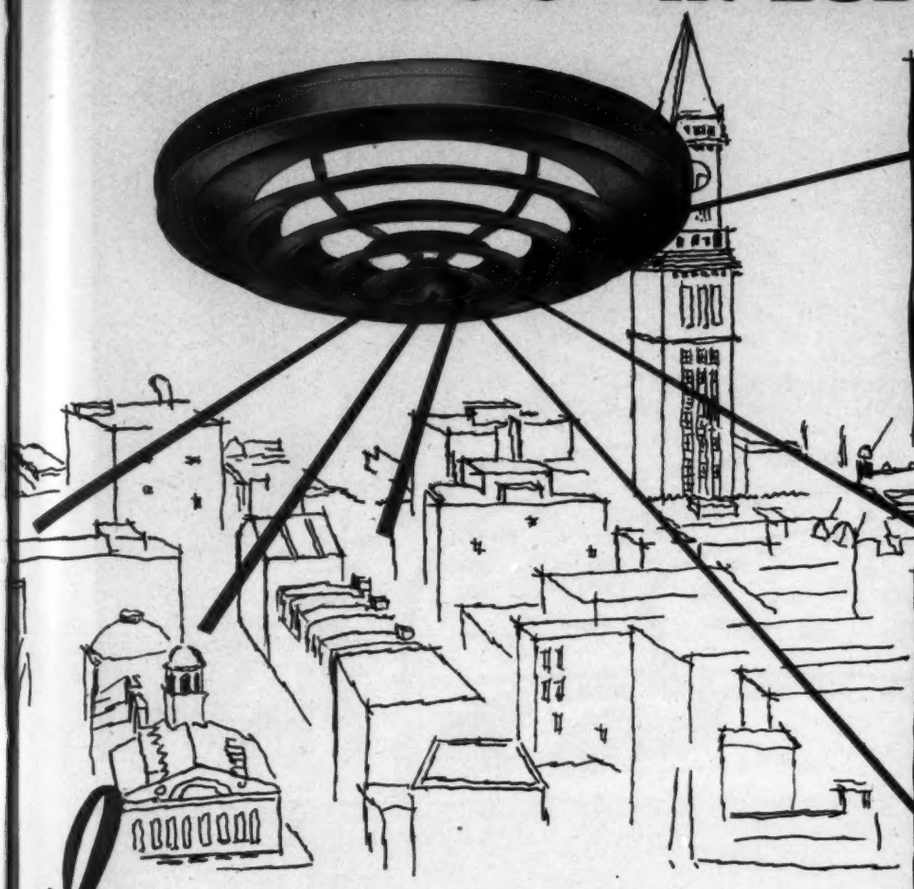
Bridgeport 2, Connecticut

CHICAGO • LOS ANGELES

J 99848

Specify Bryant Devices from your Electrical Wholesaler.

Aerofuse IN BOSTON



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R. H. STEARNS COMPANY

In the shadow of Bunker Hill . . . Old North Church . . . and the many other historic landmarks here . . . busy Boston enjoys the comfort and convenience of modern air conditioning in its up-to-date commercial, industrial and institutional buildings.

As is the case in other cities from coast to coast, important air conditioning jobs in Boston are Aerofuse Diffuser jobs. Selected on the basis of efficient, dependable performance . . . and smart styling that blends architecturally with modern interiors . . . Aerofuse Diffusers meet the most exacting requirements at the *vital point of air delivery*, the point at which the success of an air conditioning installation is measured.

There's a complete Aerofuse line . . . a type and style to meet every job specification. For complete details, size selection information and engineering data, write for Catalog 104.

Other Typical
Aerofuse Installations
in the Boston Area

Peter Bent Brigham Hospital
Public Service Building
Veterans Hospital
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Brookline Trust Co.
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TUTTLE & BAILEY inc
NEW BRITAIN, CONNECTICUT

ENGINEERED PRODUCTS FOR HEATING, AIR CONDITIONING AND VENTILATING

11TB51

The Fort Bragg project is one of the first to be built under the Wherry Act. It consists of 1,000 dwelling units on 160 acres. The dwelling units are all brick veneer and include one-story, three-bedroom, detached houses—and garden apartments containing two, four, five and six-family units.

The G-E Refrigerator holds 25% to 50% more space than most old-type refrigerators now in use. Furthermore, it's a thoroughly dependable refrigerator. Today more than 2,700,000 G-E Refrigerators with sealed systems have been in use 10 years. Many as long as 15 and 20 years and longer.

Here's military housing at its best

The new Military Housing project at Fort Bragg consists of 1,000 dwelling units . . . and each unit is equipped with dependable and economical General Electric appliances that lighten kitchen tasks.

No question about it: The families that live in military housing projects today want modern accommodations and conveniences.

They want the same worksaving electric appliances that they would enjoy while living in civilian communities.

They want dependable electric refrigeration. They want plenty of hot water, at all times, electrically heated.

They want to prepare their meals efficiently and quickly on electric ranges.

The families living in the new Military Housing project at Fort Bragg enjoy these advantages.

General Electric equipment has been chosen for each of the 1,000 dwellings. General Electric is the brand of electrical appliances that people prefer to all others.

Says Mr. W. H. Weaver, President
W. H. Weaver Construction Co., Inc.
Greensboro, North Carolina—

"Just a line to tell you how pleased we are about the General Electric Appliances at Fort Bragg.

"The services rendered us by your distributorship have been most valuable . . . not only at Fort Bragg, but in Greensboro and High Point as well.

"We know now, more than ever, that we can put our full confidence in General Electric products and services."

Home Bureau, General Electric Company, Bridgeport 2, Conn.

GENERAL ELECTRIC

Ask people about this General Electric Range, and they will tell you that the thing that pleases them most about it is its speed and cleanliness. Everything stays clean—with so little effort. Meals taste marvelous and they're fast and easy to get. The complete safety of this range also gives people real peace of mind.

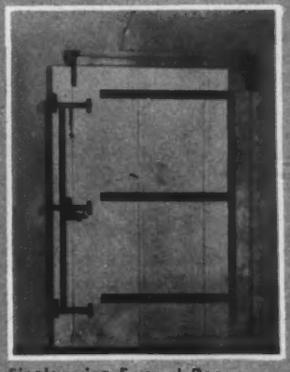
General Electric Table-Top model installs easily anywhere. It's safe. No flame, no flues, no fumes. Underwriters' Laboratory approved. G-E Water Heaters are dependable, they stand up in service. Finished in gleaming-white synthetic enamel, with one-piece work-top of acid-resistant porcelain enamel for extra wear.

At Tennessee Eastman Company

DIVISION OF EASTMAN KODAK COMPANY

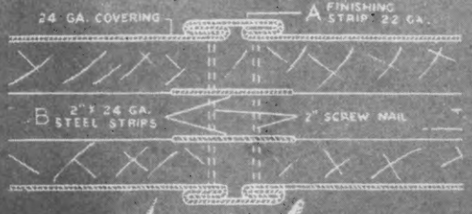
it's RICHMOND Fyrgard and Kalamein Doors

for **surer fire protection and better design**



Single-swing Fyrgard Door

Twice thicker steel side sheets mean real fire door protection



You will find many Richmond Door installations in this great, modern plant which is a large producer of cellulose ester plastics, acetate yarn and staple, and industrial chemicals. As the plant has continued to expand, Tennessee Eastman has continued to order Richmond Fyrgard Doors and Richmond Kalamein Doors. For years, Richmond products have been giving satisfactory service at Tennessee Eastman.

And so it is all over the country in plants that know and value the surer fire protection and better architectural design of Richmond Doors.

There are time-tested Richmond Doors for many industrial and commercial purposes — single- and double-swing or single- and double-slide Automatic Fire Doors — Kalamein Doors — Industrial Steel Doors. Also Unit Steel Frames.

If you are planning to use fire doors on any project, be sure to write for Service Sheet R5.

RICHMOND Fyrgard door

THE RICHMOND FIREPROOF DOOR COMPANY
RICHMOND, INDIANA
an affiliate of **THE PEELLE COMPANY**

"it's **PEELLE-RICHMOND** *engineered"*

SEE OUR CATALOG IN SWEET'S

AUTOMATIC FIRE DOORS • KALAMEIN DOORS • INDUSTRIAL STEEL DOORS • UNIT STEEL FRAMES

small house

The best laid plans . . .

will be based on
copper tubes

Tomorrow, ANACONDA Copper Tubes will provide the ideal small house piping for every purpose—for water and heating lines . . . for radiant heating panels . . . for soil, waste and vent piping. No other piping material offers designer, builder and owner the combination of long life, economy and satisfaction.

Check these advantages of copper tubes for small house construction:

- ✓ *Ideal for prefabrication of lightweight assemblies and repetitive construction.*
- ✓ *Economical—solder-type fittings, long lengths and light weight cut installation costs.*
- ✓ *More permanent — copper piping can't rust; smooth bore reduces danger of clogging.*
- ✓ *Permit simplified design and construction — copper tubes and compact fittings can be installed in standard width partitions and in restricted spaces.*
- ✓ *Added value—copper piping indicates quality construction; makes owners proud; adds to sale value.*

For information on ANACONDA Copper Tubes for water lines and radiant panel heating, and on Type M Tubes for soil, waste and vent lines, write to The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 5105A

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ANACONDA® COPPER TUBES

One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented are those of the author and are not necessarily endorsed by the Du Pont Company. Reprints of this and other articles in the series may be had free upon request.

AIR CONDITIONING A MODERN PHARMACEUTICAL PLANT

by Guy B. Panero, Consulting Engineer, New York, N. Y.

GUY B. PANERO—*Studied engineering at Brooklyn Polytechnic Institute and, post graduate, at Columbia University. Licensed since 1924, he now heads a large firm of consulting engineers and has designed many installations for leading pharmaceutical plants. These include Phillips' Milk of Magnesia at Gulfport, Miss.; E. R. Squibb & Sons, Long Island City, N.Y.; and laboratories for Sterling-Winthrop Research Institute, Rensselaer, N.Y.; Johnson & Johnson Research Center, New Brunswick, N. J.; and various others. Mr. Panero also studied feasibility of underground plants for the War Department and recommended methods of air conditioning them.*

Controlled air conditions have become an important tool in the pharmaceutical industry. As quality specifications for drugs and biologicals are gradually becoming more rigid, controlled air conditions are essential to help meet and even surpass these standards. However, the difficulty is that many of the chemical drugs and plant parts used are extremely hygroscopic and are therefore sensitive to prevailing moisture conditions. Precise engineering is required to achieve profitable operation.

TABLETS AND CAPSULES REQUIRE CONDITIONED AIR

In the manufacture of compressed tablets or pills, some moisture can be picked up (1) while the ingredients are screened or blended, and (2) during the actual compression process. Too high a humidity during manufacture will cause the slightly moist granules to stick to the dies, and since the dies and punches are made of highly polished tool steel, corrosion is promoted. Ideal conditions range from 35 per cent relative humidity at 80°F to 50 per cent relative humidity at 75°F. However, some substances may require not over 10 per cent relative humidity.

After the tablets are formed, they are given several coats of inert material, a sugar coating, and then they are polished to obtain a gloss. To retain this high gloss, air conditioning is necessary during both manufacture and packaging. For such rooms, satisfactory conditions are 35 per cent relative humidity at 80°F.

Since a tableting department usually handles several different materials at the same time, although on different machines, each machine is provided with an individual dust collector. Sufficient filter capacity is installed in the central air collecting system to remove this dust, which may be toxic, before the air is returned as recirculated air. Many of the products handled are extremely valuable, and dust must be reclaimed where possible.

Conditioned air is requisite as Aralen tablets are inspected in pharmaceutical plant.

Capsules, which may be either soft shell, or the hard or slide types, are made of gelatin. If stored in too dry an atmosphere, the capsules will lose moisture and will become hard and brittle. Should the air be too moist, some of this dampness is absorbed, and the containers become too difficult to handle. In either case the capsules can be reclaimed by short storage under ideal air conditions. The best air conditions for filling and packaging capsules are 40 to 50 per cent relative humidity at 75°F.

FRESH AIR FOR ANIMAL ROOMS

Pharmaceutical plants maintain animal rooms that house small animals such as mice, rats and guinea pigs for testing and experimental work. These animals are sensitive to drafts and temperature differences and are susceptible to pneumonia. Good conditions result when the air is maintained at 40 to 50 per cent relative humidity and from 77° to 80°F. It is quite obvious that air from such rooms cannot be recirculated and that 100 per cent fresh air must be provided at all times.

AIR STERILIZATION OF MAJOR IMPORTANCE

In areas where aseptic or sterile conditions are required, as in the manufacture of sterile powders and solutions,

air conditioning must also include air purification and sterilization.

Since air-borne bacteria or spores are carried on dust particles, filters are used in the central duct to remove this means of bacteria travel. Two types of filters are used in the same duct. A throw-away or replaceable type of fibrous material removes the coarse particles from the air. An electrostatic filter, which is placed next in line, is designed to draw out the very fine foreign matter. The first type also serves as a safeguard, should the second filter fail to function.

Temperature and humidity are carefully controlled in filling and sealing parenteral medications in the Myerstown (Pa.) plant of Winthrop-Stearns, Inc.

As the air travels in the duct, it passes through rays of ultraviolet light from a battery of sterile lamps. In some designs, sterile lamps are also placed in the individual rooms, or in the exhaust air duct leading from certain hoods.

Sterile rooms should have a minimum of air turbulence. Air diffusers installed in these rooms are designed to supply air of even flow. Such rooms are kept under a slight positive pressure at all times to prevent dust entering from outside sources.

ZONING

In designing an air conditioning system, it is important to group similar activities so that, for example, the bacteriological division with its infectious air is placed in a separate zone. Some areas, including the office space, are normally occupied 8 hours a day; a few manufacturing operations are conducted on a 24-hour, 7-day-a-week schedule. Therefore, an economical arrangement is to have the continuous manufacturing areas served by a small zone system while the main air conditioning system supplies conditioned air to the offices and other plant areas.

PACKAGING OPERATIONS

While many products can be handled at 5 to 10 per cent relative humidity, excellent general conditions for most purposes are 30 per cent relative humidity at 75° to 80°F.

High-speed labeling and packing machines operate better when the labels and cartons are held in an air conditioned packaging room or stored in a controlled-humidity room prior to use. Paper and paper products pick up moisture from the surrounding air.

DESIGN DETAILS

To conserve the dry air produced for low humidity rooms when doors are opened, entrance should be through air locks or double doors. These doors should be large enough to permit a pallet or supply truck to pass through, and they should be spaced far enough apart to make it impossible for one truck to keep both doors open at the same time.

Where there is considerable difference between inside and outside conditions, a vapor seal or barrier is important in the outside wall. This stops the travel of moisture from the outside to the inner wall, and where inside humidity is in excess of 50 per cent, it prevents the passage of moisture from the inner wall to the outside. As a rule, high-humidity rooms are located away from the outside walls.

Duct design should take into account the value of access doors to permit cleaning in horizontal runs. Where air is supplied to areas having dusty operations, the return air should also be filtered.

A stand-by air conditioning unit is a necessity. Not only is it valuable as a safeguard should mechanical trouble develop, but also for use when additional capacity is required to meet peak conditions during unusual summer days.

• • • • •

As in many industrial plants, laboratories and offices—pharmaceutical and others—the matter of air conditioning ranks high in early plans. Prime requisite, of course, is safety of operation. Equipment selected must be of proved dependability. It must assure the required conditions day in and day out and provide them with maximum efficiency and at minimum cost.

For these reasons, architects and consulting engineers throughout the air conditioning and refrigeration industry heartily endorse and recommend systems that are charged with "Freon" safe refrigerants. These are compact, versatile, dependable and the "Freon" refrigerants they use are *safe . . . nonflammable, nonexplosive, virtually nontoxic. Their purity and uniformity further guarantee satisfactory, trouble-free operation of the system. In addition, "Freon" refrigerants meet the demands of building codes everywhere. You can recommend "Freon"-charged equipment with full knowledge that your client will enthusiastically approve it. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Del.*

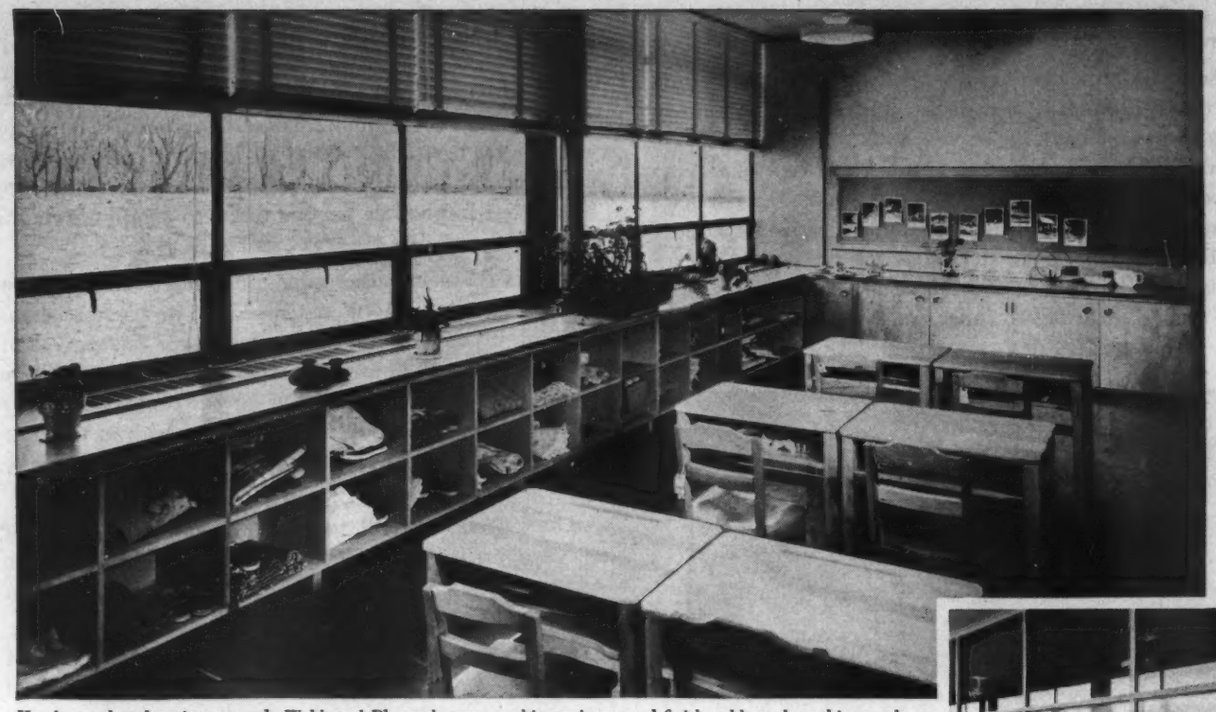
DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

"FREON" SAFE REFRIGERANTS

KINETIC

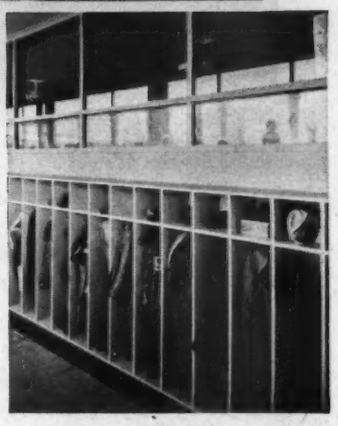
"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



Handsome, knock-resistant maple Weldwood Plywood storage cabinets, in natural finish, add much to this room's attractiveness, yet achieve completely the functional end desired.

Planning a new school?

...or modernizing an old one?



Open clothes closets lining both halls are of birch Weldwood, painted gray. This beautiful hardwood plywood is often given natural finish.

All architectural millwork is by Sanford Woodworking.

Check these practical ideas from the new Greenville School in Scarsdale, N. Y.

Why are school architects making more and more use of Weldwood Plywood?

This Scarsdale school, designed by Moore & Hutchins, tells part, yet not all, of the story.

These architects selected Weldwood hardwoods for closets and cabinets. In this way, they created furniture which is "tops" in carefree service and also extremely attractive in appearance.

Built-ins are but one of the ways in which this genuine wood paneling is being used in school construction and remodeling.

With Weldwood, you can have classrooms, auditorium and corridors panelled in beautiful hardwoods at surprisingly low cost. And, once installed, Weldwood walls require virtually no maintenance . . . no periodic redecorating. Weldwood Plywood is guaranteed for the life of the building in which it is installed.

In new construction, Weldwood Plywood can be applied directly to the studding. For redecorating, the large panels go up fast and easily right over existing walls . . . even over cracked, unsightly plaster.

So, whether your plans deal with brand new schools or time-honored old ones, make sure that they call for a liberal use of Weldwood Plywood . . . the quality standard of the industry.

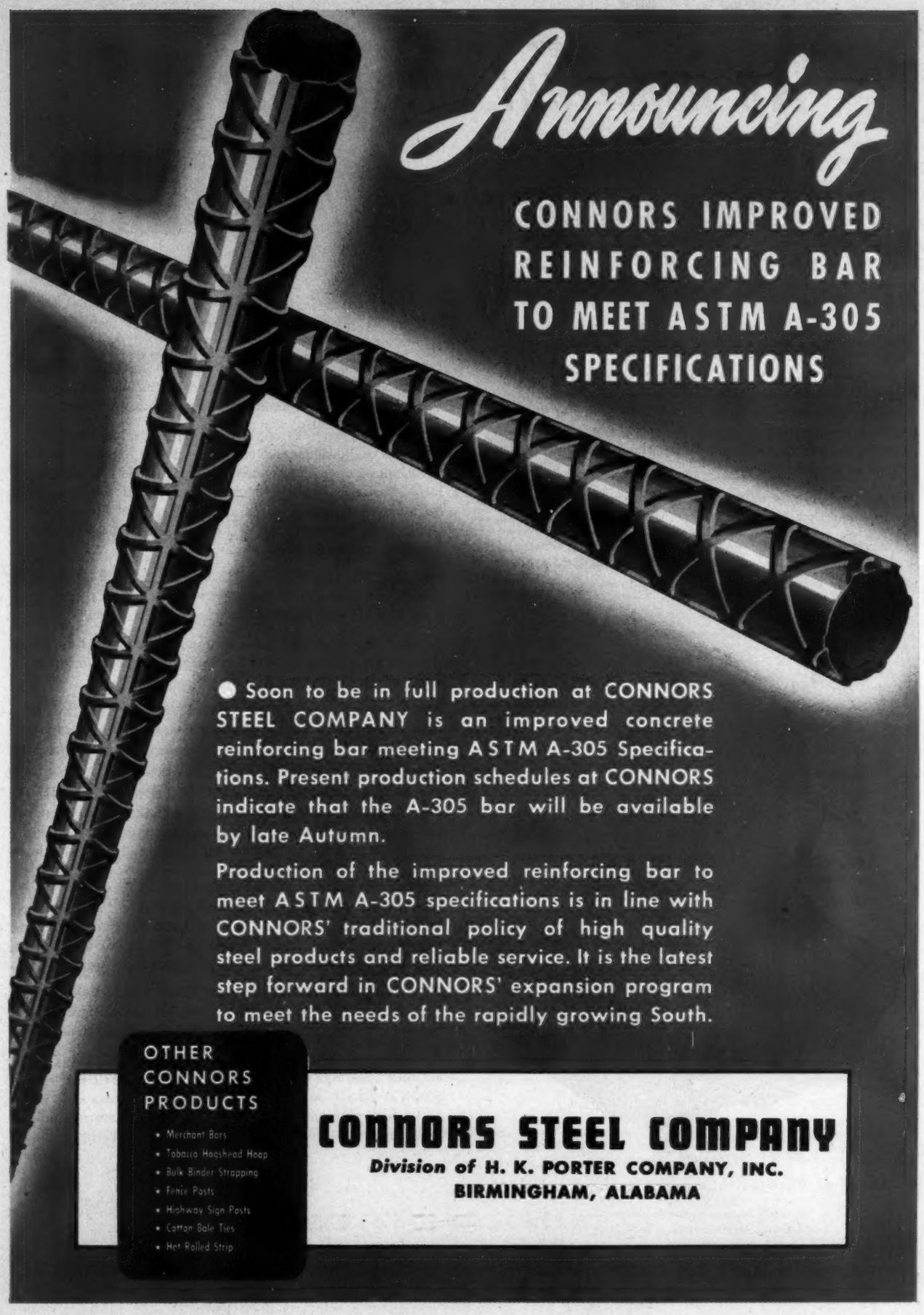
WELDWOOD Plywood

Manufactured and distributed by

UNITED STATES PLYWOOD CORPORATION New York 18, N. Y.

and **U. S.-MENGEL PLYWOODS, INC., Louisville 1, Ky.**

Branches in Principal Cities • Distributing Units in Chief Trading Areas • Dealers Everywhere



Announcing

CONNORS IMPROVED REINFORCING BAR TO MEET ASTM A-305 SPECIFICATIONS

● Soon to be in full production at CONNORS STEEL COMPANY is an improved concrete reinforcing bar meeting ASTM A-305 Specifications. Present production schedules at CONNORS indicate that the A-305 bar will be available by late Autumn.

Production of the improved reinforcing bar to meet ASTM A-305 specifications is in line with CONNORS' traditional policy of high quality steel products and reliable service. It is the latest step forward in CONNORS' expansion program to meet the needs of the rapidly growing South.

OTHER CONNORS PRODUCTS

- Merchant Bars
- Tobacco Hogshead Hoop
- Bulk Binder Strapping
- Fence Posts
- Highway Sign Posts
- Cotton Bale Ties
- Hot Rolled Strip

CONNORS STEEL COMPANY

***Division of* H. K. PORTER COMPANY, INC.**

BIRMINGHAM, ALABAMA

An important message to everyone concerned with BUILDING

WITH THE HUGE PROGRAM of essential military and civilian building that lies ahead of us, three things—time, labor and materials—are obviously of critical importance.

To everyone concerned with the construction of private homes or public housing, military installations, expanded plant capacity, government facilities and all the other building required for strengthening our defenses, new developments or improvements that will save either time, labor or materials will be of extreme interest.

The purpose of this message is to tell you about one such development that saves *all three.*

It is a revolutionary new type of window that can be *completely installed in a few minutes* instead of the hours required to install many types of conventional windows.

F. C. Russell, PRESIDENT
The F. C. Russell Company • Cleveland 1, Ohio
World's largest manufacturer of All-metal combination windows

It is a complete, finished unit—containing rustproof Lumite screen, glass, weatherstripping and also insulating sash if desired.

It comes factory-painted, fully assembled including the casing and hardware—all ready to place in the window opening. There is no time-consuming, labor-consuming glazing, fitting, altering and painting on the job.

It has no troublesome sash cords, weights or balances. Instead, the windows operate smoothly and easily in vertical slides and lock automatically in both open and closed positions. And because the glass inserts are easily removable and interchangeable, "spares" can be kept on hand for inserting at any time breakage might occur.

For long life and resistance to the elements, it is made of Armco Zincgrip steel, hot-dipped galvanized, Bonderized —or equal—and finished with baked on enamel.

Because of its unique tubular construction, it has great strength yet uses up to *60% less metal* than most conventional types of steel windows.

The double glass insulation permits rainproof and draft-free, filtered-screen ventilation in any type of weather. Insulation from outside noise, as well. And it saves up to ⅓ in precious heating fuel!

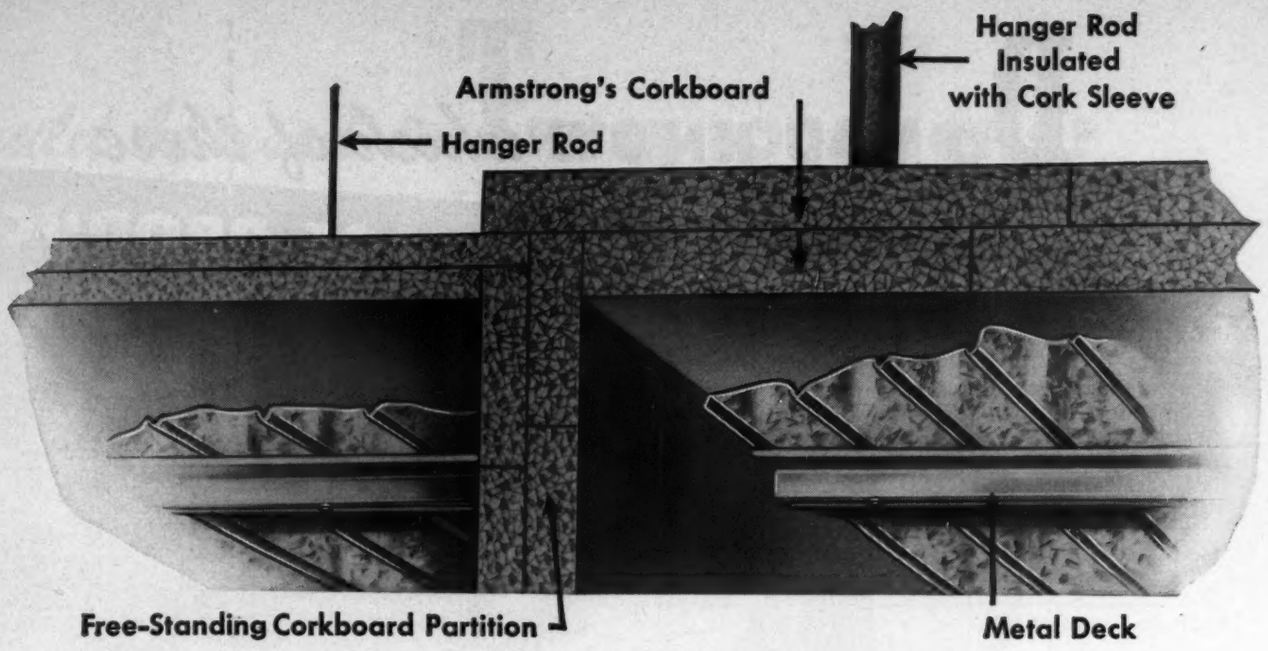
This window, known as the RUSCO PRIME WINDOW (Vertical Slide) was developed by The F. C. Russell Company two years ago. Despite its many advantages and superior features, specially-devised tooling and production methods enable us to sell it competitively with the lowest priced window units on the market. Thousands are already in use on private homes and housing projects, and they have been specified on many large installations such as Ladd Air Force Base and Eielson Air Force Base in Alaska; Selfridge Air Force Base, Selfridge, Michigan; and Scott Air Force Base, Belleville, Ill.

We believe that the Rusco Prime Window merits the serious consideration of everyone concerned with building and with the conservation of precious time, labor and essential materials.

For the same convenience and economy advantages on *existing* buildings RUSCO COMBINATION SCREEN AND STORM SASH is recommended. These windows save up to ⅓ on fuel, eliminate changing of screens and storm windows and can be installed without alteration to present windows.

F C Russell

FOR FULL INFORMATION, DEMONSTRATION OR ENGINEERING CONSULTATION ON THE RUSCO PRIME WINDOW, CALL, WIRE OR WRITE DEPARTMENT 7, AR91, THE F. C. RUSSELL COMPANY, CLEVELAND 1, OHIO



WE HAVE BEEN ASKED:

"What is the best way to join a free-standing cork partition and a metal deck?"

"We are specifying a metal deck ceiling in a 20° below zero freezer and an adjoining 35° anteroom," writes an architect. "The design calls for a free-standing cork partition between these two rooms. Just how should I join the partition and the metal deck?"

The illustration above shows the method Armstrong advised. As you can see, the metal deck is broken so that the cork partition can pass through and tie right into the cork ceiling insulation.

If you were to run the deck through both rooms and just butt the partition against it, the metal would get so cold in the 35° anteroom that condensation and frost would form on the deck adjacent to the partition. This condition will result in considerable loss of insulating efficiency at this point and in accumulation of moisture and unpleasant conditions in the anteroom as well.

When you're hanging the deck, leave a gap in it so that the free-standing wall will join the corkboard ceiling. The gap should be approximately 1" wider than the thickness of the insulation specified to allow ample clearance for putting up and finishing the partition.

Furnishing the right answers to questions on low-temperature insulation problems is just one of the services offered by Armstrong engineers. The complete contracting organization they represent also supplies top-quality insulation materials and skilled workmen to apply them. When you need advice on low-temperature insulation, call Armstrong.

SEND US YOUR QUESTIONS: If you have any questions on the use of insulating materials or the construction of low-temperature facilities, please do not hesitate to write to us. We'll see that you get a practical answer. Just address a letter or post card to Armstrong Cork Company 2409 Concord Street, Lancaster, Pa.

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MATERIALS - INSTALLATION
FOR ALL TEMPERATURES FROM 300°F. BELOW ZERO TO 2800°F.

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9. Series No. 230-V Floor Drain
10. Series H-50 Sediment Interceptor
13. Series No. 0710-BS Recirculating Supply Fitting
14. Series No. 5430-BB Floor Drain
15. Series No. 4866 Roof Drain

TEST YOUR SKILL. Select the plumbing drainage product you think should be installed in the locations indicated. Then check your score against the correct list shown "upside down" below. If you score 80% or better, you belong in the class of the experts; 50% to 80% is average; and if you score less than 50%, then you may need help!

But... regardless of your score, you will realize that the selection of plumbing drainage products is not an easy task—especially when there are innumerably more locations than the sixteen shown here. Drainage, too, is only a small part of a building's requirements, so how do you select the right plumbing drainage products without spending a lot of costly time?

The answer is simple—call Josam. Among the thousands of different types of drainage products in the Josam line you will find the correct product for every drainage condition... a product that has been proven exactly right in thousands of installations. There's no time wasted, there's no guesswork, and you pay no more for Josam quality.

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A-11	C-3	E-14	G-1	I-9	K-2	M-7	O-16
B-15	D-6	F-4	H-8	J-5	L-10	N-13	P-12

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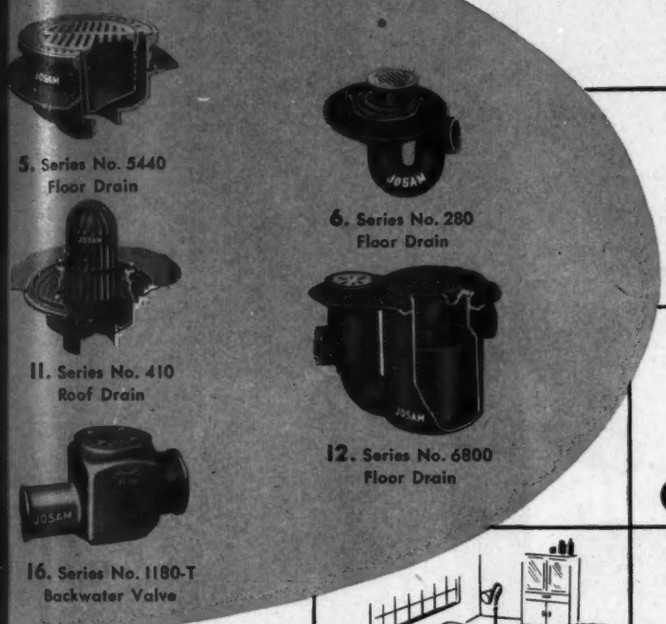
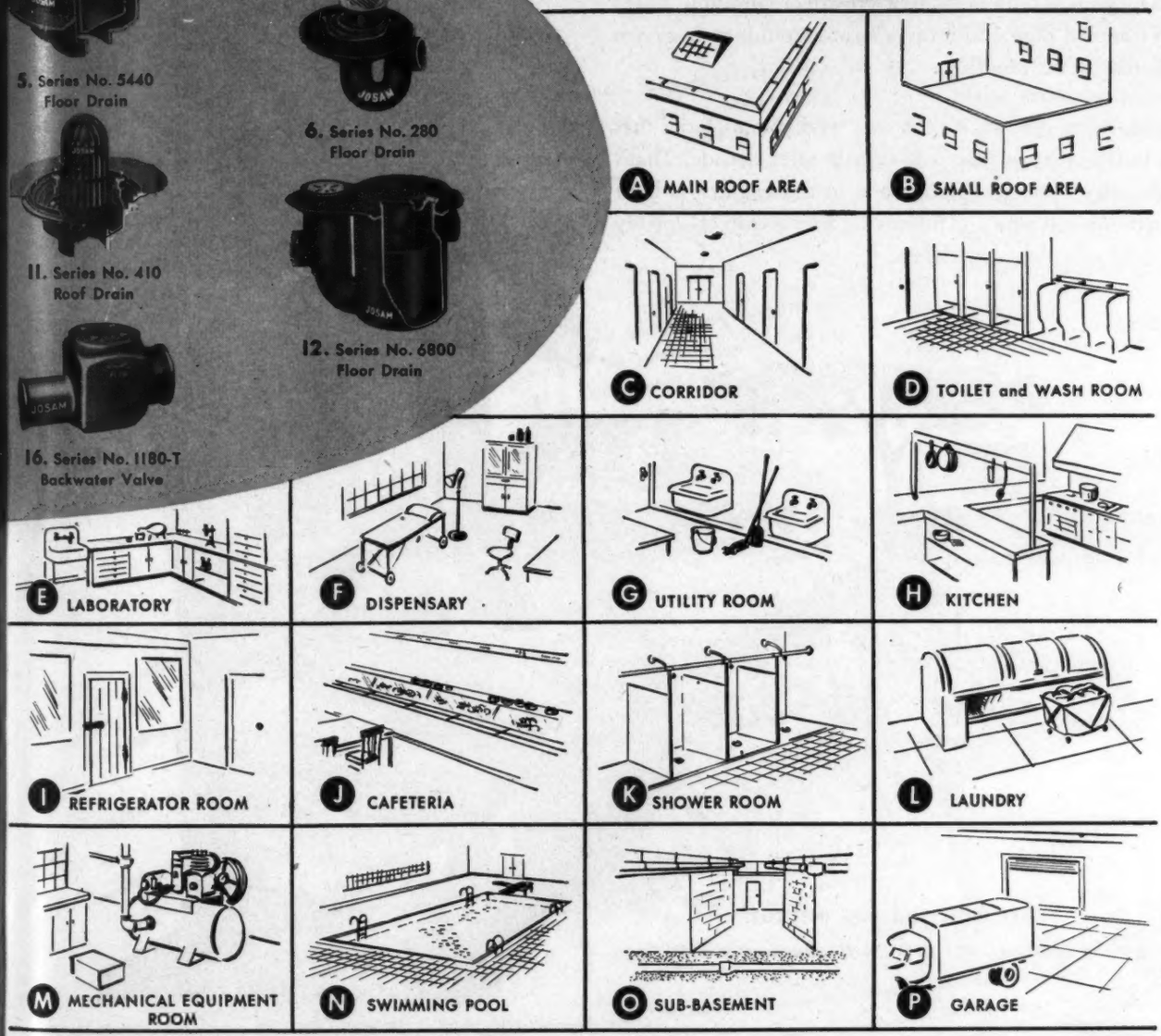
should be used in THESE LOCATIONS?


5. Series No. 5440 Floor Drain
6. Series No. 280 Floor Drain
11. Series No. 410 Roof Drain
12. Series No. 6800 Floor Drain
16. Series No. 1180-T Backwater Valve



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CAST IRON SOIL PIPE INSTITUTE
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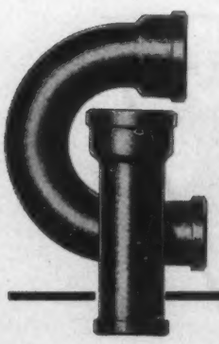

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- Last year we started out with both 4- and 8-ft. slimline — and 4-ft. has won by a landslide! Sales have zoomed higher than anyone had expected. Lighting men everywhere have fallen in love with GUTH 4-ft. Slimline. Here's what some say:

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And you won't have to, if you rely on Barrett! Barrett can give you the world's longest-lasting built-up roof in the shortest possible time. For Barrett *speeds* your roofing jobs in 4 important ways.

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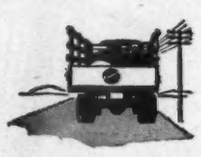
2 **BARRETT SPEEDS** deliveries. Strategically located supply points enable us to rush materials to your Barrett roofing contractor, and to your job when they are needed.



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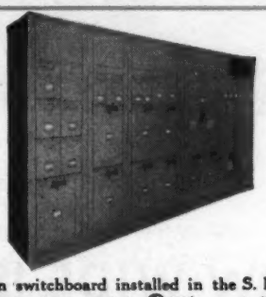
There's a FA unit for almost every power and light distribution problem. You can be sure of safe, dependable and trouble-free service by insisting on FA products on your next job. Write today for additional information or contact your nearest FA representative, listed in Sweet's.



The main switchboard installed in the S. H. Kress Santa Monica Store is of the FA Klampswitchfuz type of special design to meet unique requirements of the local Power Company. Illustrated is a typical FA Klampswitchfuz switchboard, features of which are almost unlimited electrical capacity . . . greater operating efficiency . . . less maintenance . . . safer operation with dead front safety type enclosures and safer and more efficient switching with the FA Klampswitchfuz or Snufarc (hinged, pull out) switches.

Capacities: FA Klampswitchfuz 30 to 600 amps., 250 volts AC or DC; FA Snufarc 30 to 200 amps., 600 volts in 2, 3 and 4 poles.

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The American Stove Co., St. Louis, Missouri, designed by architect Harris Armstrong, Kirkwood, Missouri. He enclosed the entire first floor, and the north side, in *Thermopane* insulating glass to assure comfort and greater use of floor space near windows in winter.

HOW WIDE IS THIS ROOM?

Measured in feet, this is a long, narrow room. Measured by the eye, it is comfortably wide. This effect has been created by the architect. He introduced into the room maximum daylight and view by means of a Daylight Wall of *Thermopane** insulating glass.

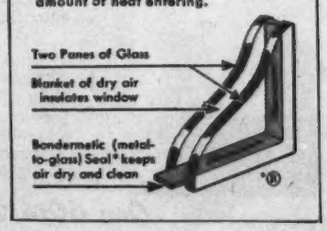
Note how clear flat glass has been used from wall to wall and from window sill to ceiling. This creates a sense of unity between the indoors and outdoors, makes the room seem larger because the ceiling seems to merge with the sky. This principle of uninterrupted ceiling lines is being widely applied in other types of modern buildings.

To achieve this illusion of spaciousness, clear glass must go all the way up. Any non-transparent material presents a barrier to the eye.

Daylight Walls have an economic advantage which comes as a plus to the psychological benefit. They are low in cost. No matter what type of building you may be considering—office, school, factory or hospital—compare construction costs of clear glass walls with those of other kinds of walls. Then *add* these advantages: glass needs no interior finishing, encloses a building quickly, and provides light and view. But the benefit to consider above all others is—people love the wide-open feeling of Daylight Walls.

For *Thermopane* literature and a copy of "Daylight Engineering for Schools", write Libbey·Owens·Ford Glass Co., 1991 Nicholas Bldg., Toledo 3, Ohio.

FOR WINDOW INSULATION, THERMOPANE* insulating glass is widely and successfully used. THERMOPANE with ½" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows in winter. THERMOPANE cuts air conditioning costs in summer by reducing the amount of heat entering.



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DAYLIGHT WALLS

THAT DON'T OBSCURE VISION

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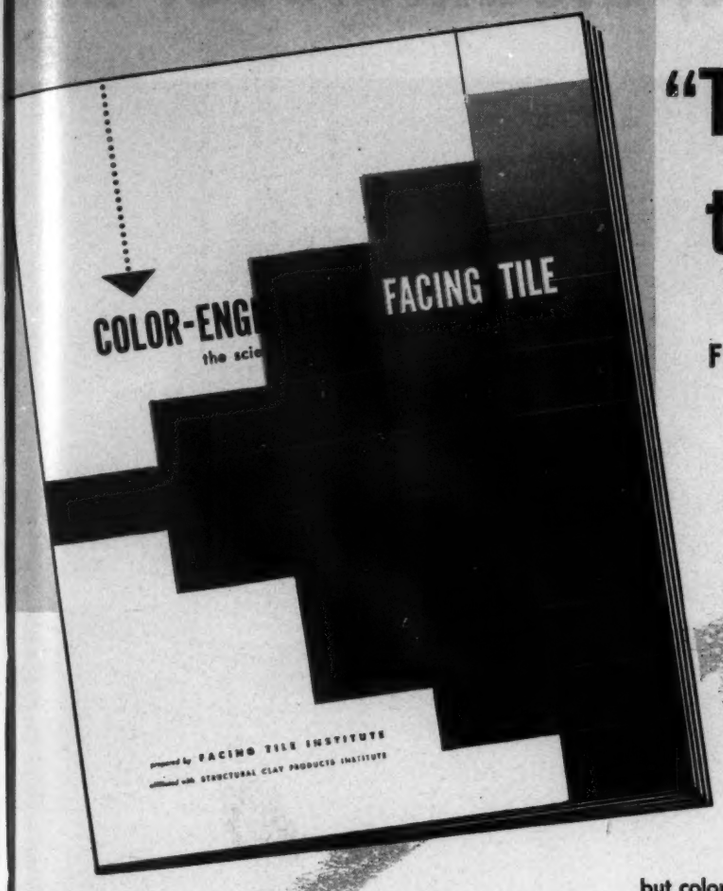

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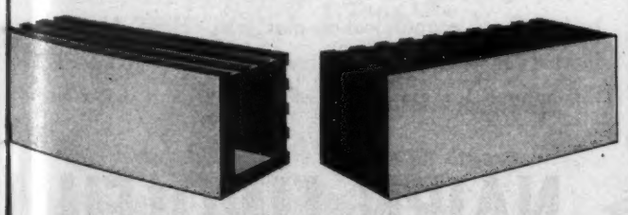

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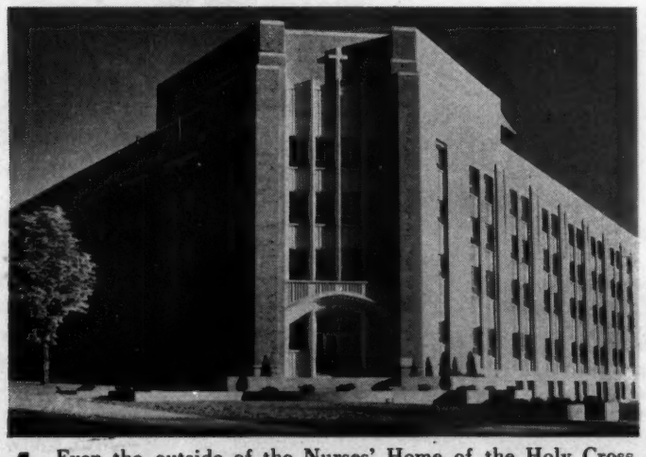

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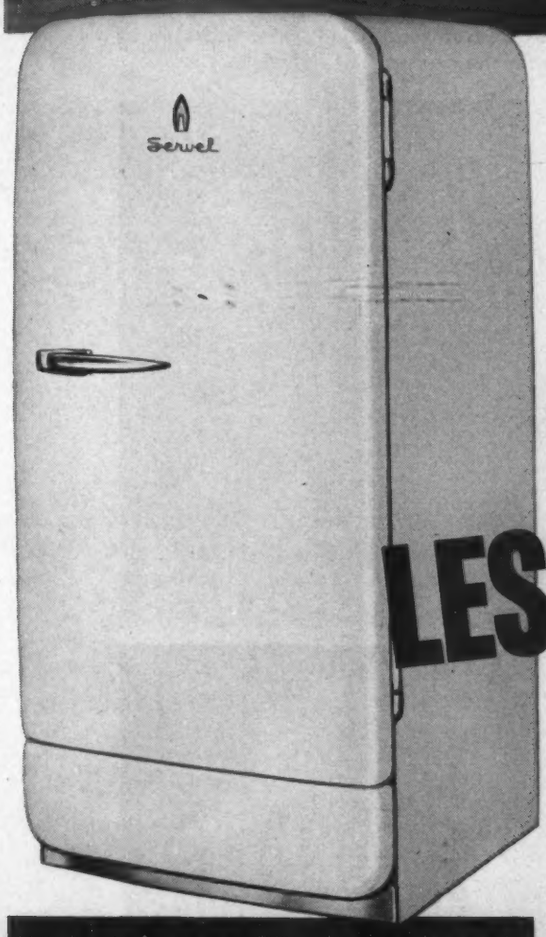
McDonough Heights Apartments—Owned by Fred Wilson, built by Mangham-Butler, Inc.



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Soon 354 families will move into these new McDonough Heights Apartments in Atlanta, Georgia. They'll find the convenience of today's finest refrigeration. For owner Fred Wilson has equipped every kitchen with a silent, long-lasting Servel.

All over the country, more and more owners and builders of large projects choose Servel. One reason is Servel's rock-bottom maintenance cost! Servel and only Servel of all refrigerators backs up its promise of low upkeep cost with a freezing system that has no moving parts to wear or break down. Servel gives year-in, year-out faultless performance with no complaints or costly repairs.

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These versatile coatings, applied by spray, brush and trowel, form efficient barriers against dampness, weather, acid fumes and smoke. Use them on steel, concrete and insulation materials.

Flintkote HYDRALT Protective Coatings, for example, are a unique mineral colloid type of asphalt emulsion which creates a film reinforced within itself. They are durable. So durable, in fact, that many installations remain just as effective after *20 years.*

You'll find *many* advantages in specifying HYDRALT Protective Coatings.

HYDRALT Emulsions require no heating.
. . . Won't crack or check from cold.
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* T. M. Reg. U. S. Pat. Off.

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Get This Test Kit

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LITEGREEN—now the standard color because of greater visibility, eye comfort, lower glare—is available in two modern machine surfaced constructions that are superior in writeability with ordinary chalk, ease and simplicity of installation. Beckley-Cardy offers both Slatebestos and Videoplate in Litegreen or standard black.

SLATEBESTOS—first of its kind. Fire resistant, damp-proof cement asbestos base. Permanent—won't expand or "explode." Easy installation.

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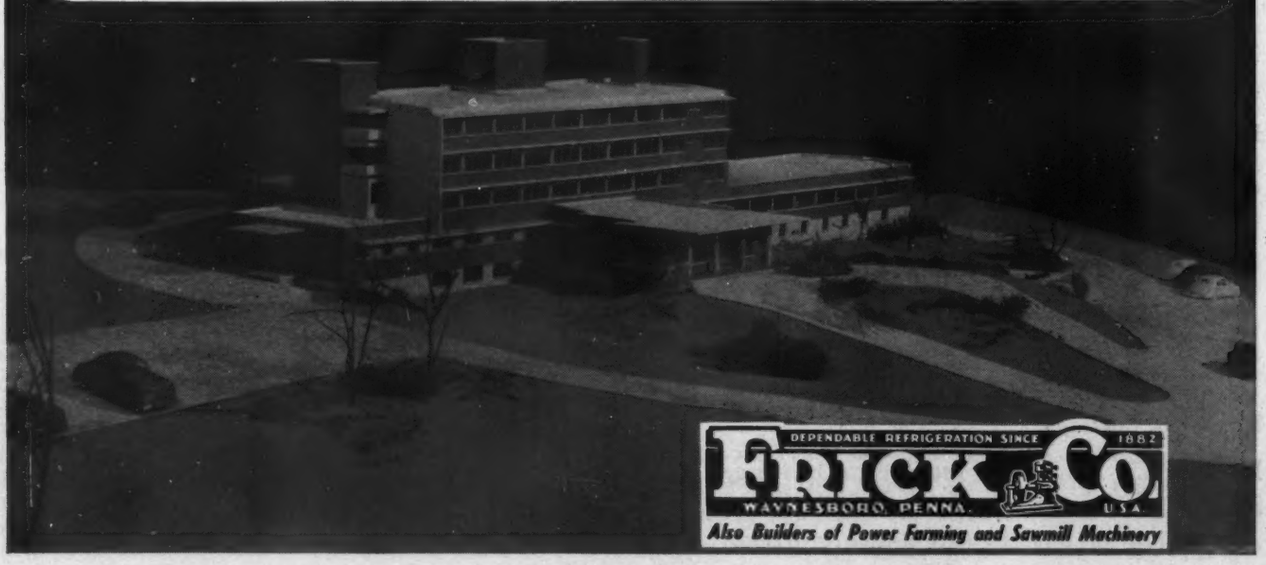
For your "project of the year" specify Frick cooling equipment.



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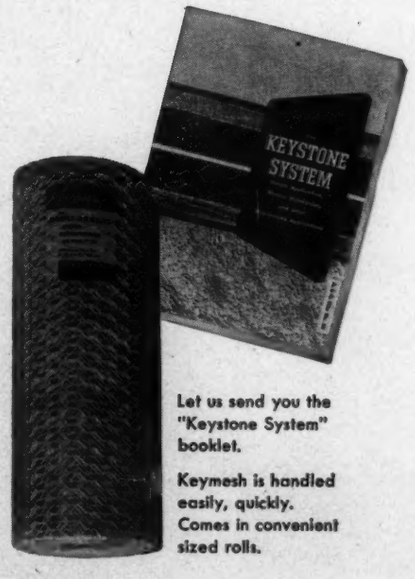
Keymesh reinforcing is also used to give strength, reduce cracks and damage in interior plaster, terrazzo, and roof deck applications.

Write for complete information.

Keystone Steel & Wire Company
PEORIA 7, ILLINOIS



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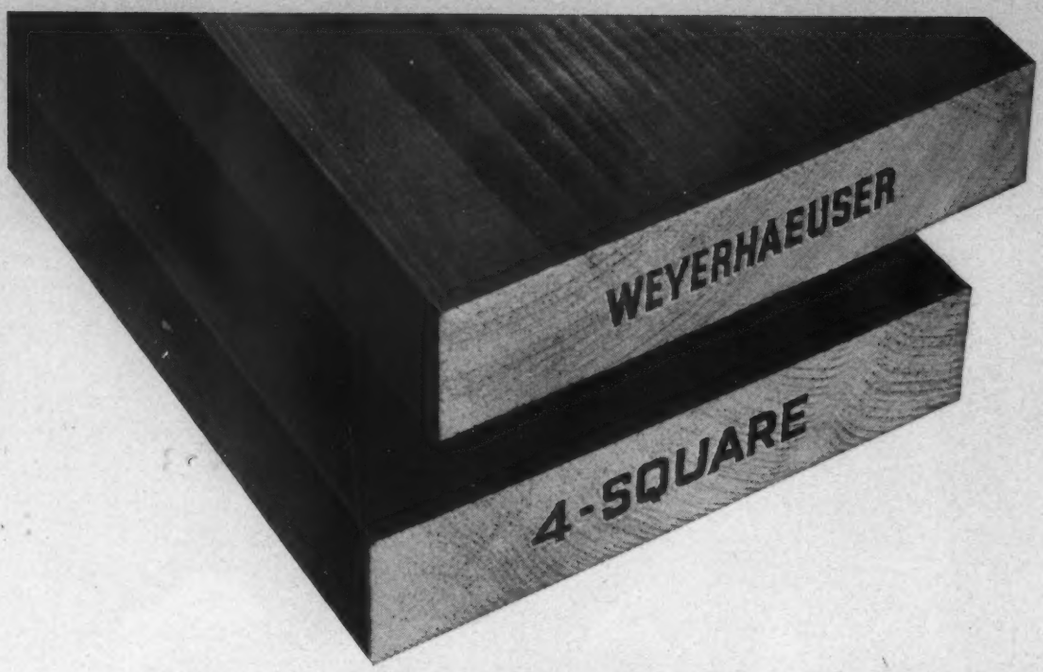


THIS BRAND NAME ON LUMBER MEANS . . .

Certified superseedlings get a strong, sturdy start in tree nursery before being transplanted.

Intensive research to make tree crops better is a never-ending task with Weyerhaeuser forestry experts.

Side by side, growth and death. Planned, scientific tree farming helps to prevent this needless waste.

Scientific Harvesting of Fine Timber Stands

To the men of Weyerhaeuser, it is necessary to see BOTH the forest and the trees as part of the job of producing good quality lumber on a continuing basis.

Progressive forest management, as practiced by Weyerhaeuser, is based on a policy of permanent mill operations within prescribed timber areas. In this program, the timber harvest for each year is prudently scheduled.

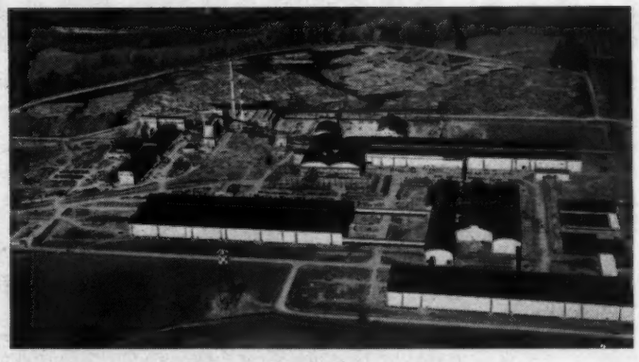
There are two methods of harvesting mature timber . . . block logging and selective logging. Block logging is clear logging of mature trees. Islands of seed trees are left to re-seed the cutover blocks. This returns the land to productive utility with trees of uniform age.

In selective logging, certain trees are removed, leaving room for the development of young timber. The type of logging pursued depends upon the type and location of the forests involved. As a further means of re-stocking the forest lands, manual and mechanical planting of seedlings are employed where natural re-seeding does not take place.

Weyerhaeuser forest and mill practices have been constantly improved and modernized, always with the view of increasing the forest yield, and obtaining more usable products out of every tree.

A continuous supply of better quality lumber for present and future needs is the program behind every piece of lumber bearing the brand name "Weyerhaeuser 4-Square".

One of a series of advertisements defining the important factors contributing to the production of good lumber.



The Springfield, Oregon Mill

At mills located on the West Coast and Inland Empire, Weyerhaeuser 4-Square Lumber is produced in a range of products from Douglas Fir, Idaho White Pine, Ponderosa Pine, West Coast Hemlock, Western Red Cedar and related species.

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COLOR-GRAINED SIDING

The up-to-date design of Ruberoid Color-Grained Siding* provides many new and exciting uses of color and the modern application of textured treatment for sidewalls. Color-Grained Siding is a significant advance in bringing custom-styled beauty not only to higher-priced homes but to low-budget houses as well.

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● ***Decorator colors in two-toned effects,*** styled by Beatrice West, famous color consultant . . . choice of four warm color combinations . . . true "decorator" shades which color-style the home from the outside in.

● ***Exclusive Ruberoid Color-Grained*** process provides a deep textured effect, accented with light and dark tones of color . . . a bonus of unsurpassed beauty that appeals to architects, designers, builders, and home buyers alike.

● ***Color-Grained Siding*** has all the long-lasting, fireproof, maintenance-free virtues of asbestos-cement siding, with the color ingrained . . . it never needs paint. And it is backed by Good Housekeeping's Seal of Approval!

● ***Write today*** for complete details about Ruberoid Color-Grained Siding . . . the new concept in sidewall treatment that is styled right for today's trend, made right to assure sales in today's market.

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MORE YEARS FOR YOUR DOLLAR WITH RUBEROID BUILDING MATERIALS

*Patent applied for

OUTLOOK FOR MILITARY CONSTRUCTION

By Frederick Gutheim

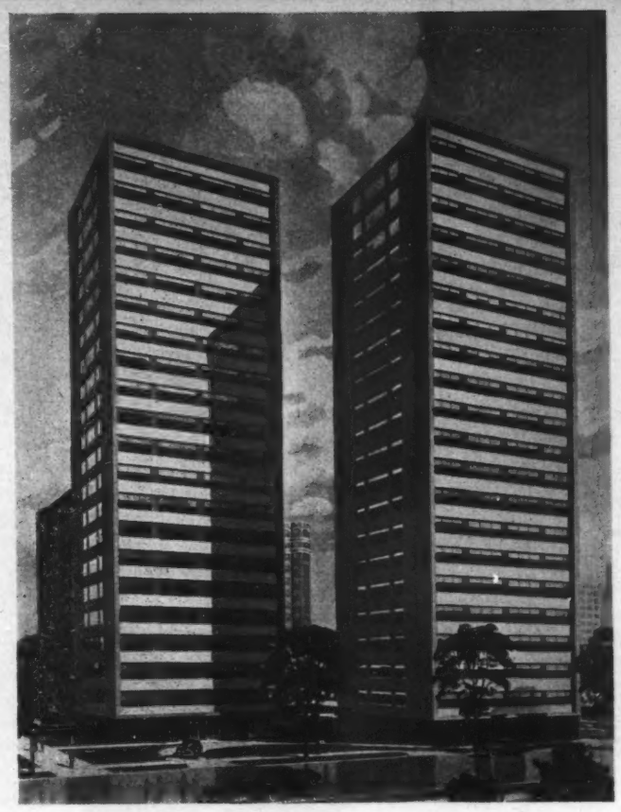
Assistant to the Executive Director, American Institute of Architects

Our military installations now are located all over the earth. Their total volume, measured in dollars or physically, compares very favorably with other types of construction. In this vast field architectural and engineering design talents are sorely needed, and increasingly it has become military policy to employ private firms. Circumstances are such that nature of work varies widely; but all of it has great importance. Mr. Gutheim, ex-newspaper man, critic, author, and now a member of the national A.I.A. staff in Washington, D.C., interprets here the situation in regard to type, quantity and fees for military work. — THE EDITORS

THE five billion dollar military construction program Congress is about to approve and send to the President will probably be in operation before this month is out. Designed to put the currently authorized 3.5-million-man defense establishment on a permanent footing, the program aims to modernize domestic and overseas bases of the Army, Navy and Air Force, and to replace temporary facilities left over from the last war with permanent buildings and installations.

Much of the 1952 defense construction program will comprise heavy engineering works, but a sufficient volume of hospitals, schools, office buildings, family housing, and other similar work is included to make the program of major interest to the whole architectural profession. It is the largest single public building program since the war, and the forerunner of a continuing high level of military construction for some years to come. The utilization of architects and engineers in private practice by the defense services means that this work load will fall in large part upon private offices. More and more offices in the coming year will find a substantial part of their energies absorbed by such work.

In presenting the defense construction program to Congress, Deputy Secretary of Defense Robert A. Lovett explained that it reflected the essential elements of a $12 billion program which the three defense departments had originally proposed. This program was reduced to $6.5 billion before it was sent to Congress, and nearly $2 billion more was lopped off by the legislators. In nearly all cases, the cuts were made on the ground that existing facilities would do for another year or two, or that the proposed facilities would not be immediately needed. Needs established by the defense departments, in short, have been deferred by departmental and Congressional action, not eliminated. They must be faced next year or the year following. There can be little doubt that so long as world conditions and national policies require a high level of military activity, a corresponding high level of



Kaufmann & Fabry Photo

Twin Towers Apartments, Chicago, contain 252 units for military and civilian headquarters personnel of Fifth Army Command; A. Epstein & Sons, Inc., Architects-Engineers. Built of reinforced concrete by the vacuum process, with individually controlled radiant heating in floor slabs, towers will have non-nickel bearing chrome steel spandrels on two facades, brick facing on others

military construction will be necessary. The huge construction program now being enacted is thus the beginning of more programs of the same sort. If world affairs grow worse, or defense technics change (a 150-Group Air Force is under consideration) the size of the programs may well increase.

Those acquainted with previous military construction programs will also note a few technicalities of importance. The work currently authorized is the first program offered Congress by the Department of Defense. While it reflects the needs of the constituent services, the imprint of the reviewing hand of the Defense Department is evident even if the primary factor of strategic planning is necessarily obscured. Defense Department review shows not merely in the cuts made in departmental requests, but in the appearance of some facilities — such as hospitals — designed for joint use by the services. The Defense Department's hand is also evident in the policy enunciated on welfare buildings and the decision to rely largely on the Wherry Act for housing. It is a dominant factor in the recommendation made by Mr. Lovett that Congress grant authority to the services to proceed with design work on projects it authorizes without waiting for separate action on appropriations. Defense Department viewpoints also underlie concurrent action being taken on a related issue — the form of contract and schedule of fees to be employed by defense agencies in dealing with architects and engineers. Perhaps most important of all, the hand of the Defense Department is seen in the decision to abandon construction of "temporary" buildings, with their short life, high maintenance, and relatively high original costs, and to concentrate on permanent or semi-permanent structures.

To describe this vast, global, diversified program in brief compass, we can think of it in terms of the needs of the three defense establishments. The Army needs training facilities at home, permanent and enlarged ports of embarcation, and bases overseas. It has notably large needs in Alaska and in Okinawa. The Navy needs to put its shore establishments on a permanent basis, and it also has important requirements for bases. The Air Force, which commands by far the largest share of the program, is the newest and most needy service. It needs training facilities, bases and retooling to meet the new demands of jet planes. (Airport requirements, to illustrate, call for longer, wider and thicker runways — about a one-quarter increase over the standards now prevailing.) Divided in this fashion, the military construction program recommended by the House is approximately: for the Army, $1.3 billion; for the Navy, $.8 billion; for the Air Force, $3.5 billion.

We can also think of this program in terms of projects to be built in the United States, projects to be built outside the United States, and projects whose location is classified. Since about $600 million worth of work is tabbed for overseas and about $1.5 billion is classified, it is clear that while overseas work has reached unprecedented magnitude, the bulk of the program is to improve, enlarge and make permanent state-side installations. It is likewise clear that the radar screen, the location of interceptor airfields, possible installations for guided missiles and other military activities which should be kept secret comprise better than one-quarter of the entire program. This portion was considered most urgent by Congress, and it was cut least.

The detailed program, broken down by military, naval, and air installations, is too long to give here, but may be obtained from the Department of Defense. Some representative projects might be cited to show its character. In St. Louis, a $22 million Army records center is authorized. Headquarters facilities for the Signal Corps in Fort Monmouth, New Jersey; the Eastern Chemical Depot at Edgewood, Md.; Aberdeen Proving Ground, Md.; and numerous other specialized service centers are major items of ten to twenty million dollars each. A large biological warfare installation at Frederick, Md. is scheduled for nearly $30 million of improvements. But in addition to these large projects, most of which are designed to expand long-established centers for the armed services, a great volume of miscellaneous and detailed construction is provided. The range of building types includes troop housing, training facilities, storage facilities, utilities, bridges, laundries, dry cleaning plants, hangars, incinerators, meat cutting and storage plants, sewage disposal plants,

pipelines, docks, hospitals, schools, academic buildings, office buildings, medical centers, research facilities — and so on through nearly the entire catalog of structures. Forty-four states are represented on the list.

As might be supposed, warehouse and storage facilities occupy a large part of this program designed to equip the nation to meet future rather than present needs. Thirty-eight arsenals, depots, armories, test stations, proving grounds and the like are scheduled to receive added storage facilities.

Family housing for the military will be handled under the Wherry Act, beefed up with some new forms of aid to private builders. The need for action in this area was recently underlined by Senate investigators' reports of rent gouging and sub-standard housing conditions in the vicinity of nearly all growing defense centers. A summary report on the status of Wherry Act housing shows that about 30,000 units of badly needed housing to be provided under this bill are hanging fire — most of them, apparently, because of high site development costs. The entire Wherry Act program, in fact, has gone very slowly. Of more than 70,000 family dwellings authorized in the original (1949) act and its amendment, only 1201 are completed; 28,748 are under construction; and 39,123 units are in various pre-construction stages. Worst hit, it appears, is the Air Force to whom about 30,000 units of the total program were allocated, and whose housing needs are most serious of the three defense services.

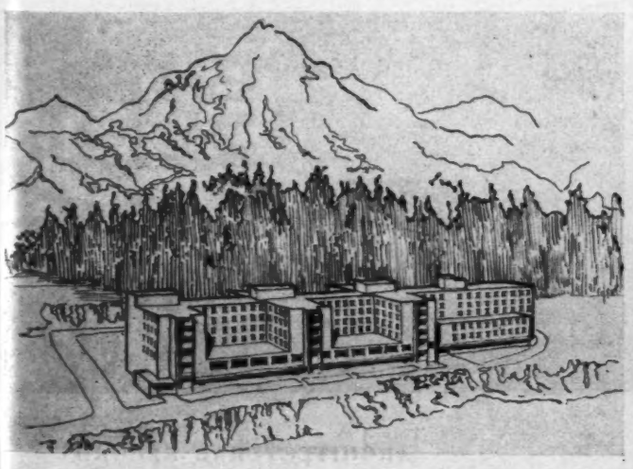
Private architects and engineers who are relied upon to design most of the defense construction work now being authorized, will work chiefly with district and regional offices of the Army, Navy and Air Force. A policy of decentralization prevails now in almost all government construction programs, as a directory, Federal Agencies Contracting for Building Designs, recently published by the American Institute of Architects, makes clear. Responsible local officers or officials negotiate design contracts with architects and engineers and little is done in Washington except to review contracts to see that established policies are followed.

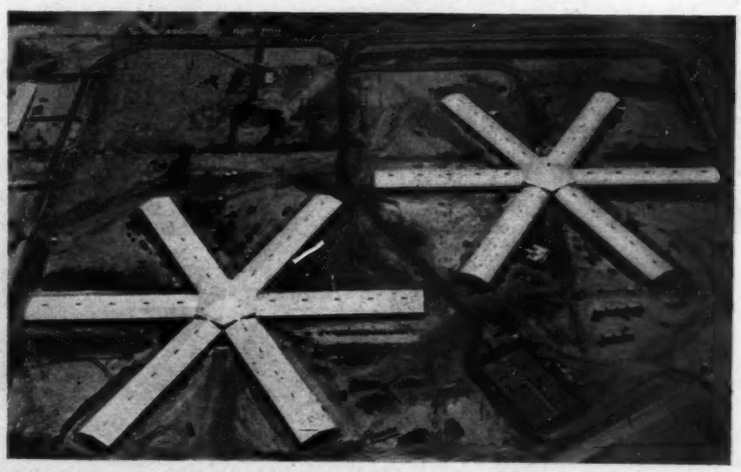
The standard design contract, in which fees were calculated as a percentage of a lump sum, is now facing its first major change in a number of years. Defense officials are now proposing a form of contract in which the designer would be paid all his costs plus a so-called "profit" of ten per cent. In conferences last month with defense officials, this proposal has been protested by representatives of the American Institute of Architects, the American Society of Civil Engineers, and the National Society of Professional Engineers, as leading to bidding for design services in a form which would ultimately result in lower standards of professional work. The three societies stood instead for the principle of negotiated contracts with payment scheduled on the basis of a percentage of estimated project costs. Negotiations on the proposed new form of contract are still in progress, and at the present time it appears that both forms of contract may be in use.

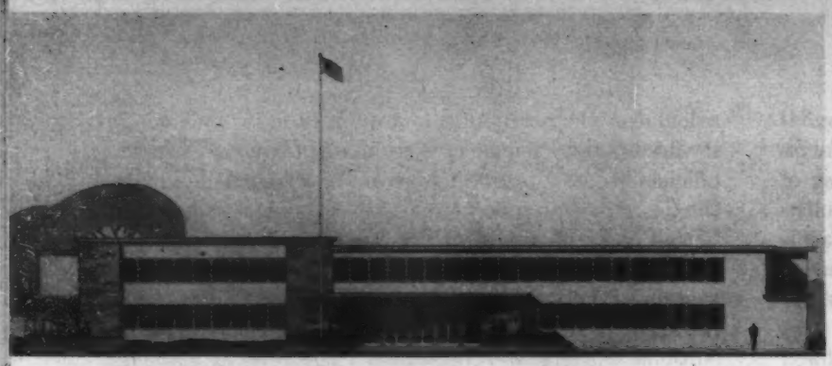
Design work on the new program should commence as soon as the program has been authorized by Congress, if Mr. Lovett gets his way. Indeed, on some of the projects design work has been done or is under way. In a number of areas defense department policies might be formulated which will allow the professions of architecture and engineering to make their fullest contribution. Among these are policies to ensure that smaller firms are engaged to handle the smaller jobs which are clearly within their competence — jobs like a $792,000 project at the Oceanographic Research Laboratory at Woods Hole, Mass. Pools of architects, or associations of firms to undertake defense work, if recognized by defense officials, would also help to spread the design work more widely through the profession in the interest of speedy execution, economy and efficiency. Policy on the handling of overseas work and Alaska work, now largely in the hands of a smaller number of firms, will also be of importance as this type of work is greatly increased in the present program. The number of questions of this sort might be expanded, right down to policy on $10 millions worth of prefabricated structures authorized in the bill. But administrative officers, not Congress, must face them in carrying out our biggest peace time construction program.

Below, left, Composite Bachelor Housing, Service and Recreation Building in Alaska; John W. Maloney, Architect; L. E. Seeman, Col., C.E., District Engineer. Right, steel office buildings erected by Atomic Energy Commission in South Carolina; though not a military project, this part of the defense program has furnished work for several architect-engineer firms

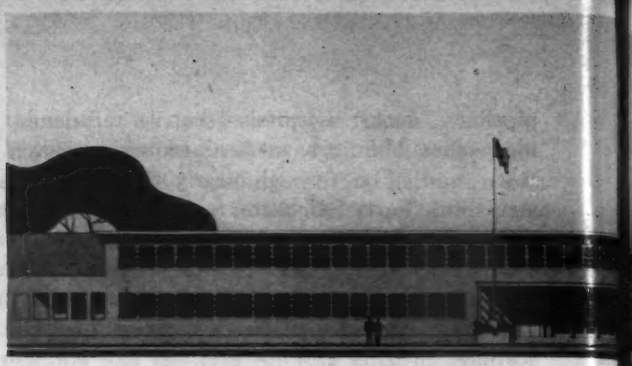
Wide World Photo







AUSTIN, TEXAS



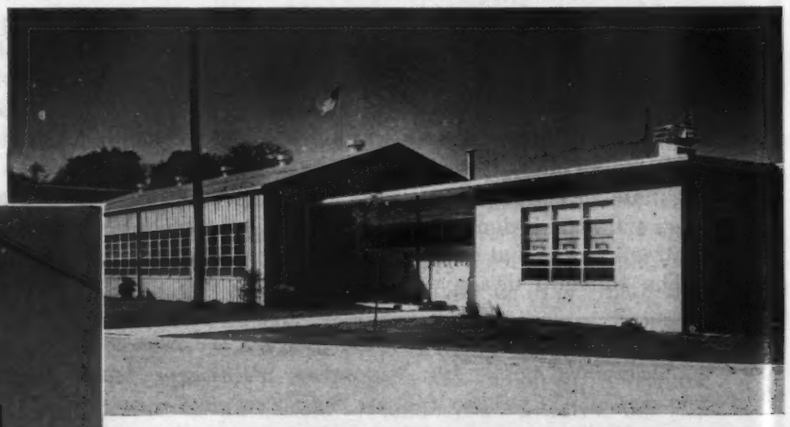
DALLAS, TEXAS

NAVAL RESERVE TRAINING CENTERS

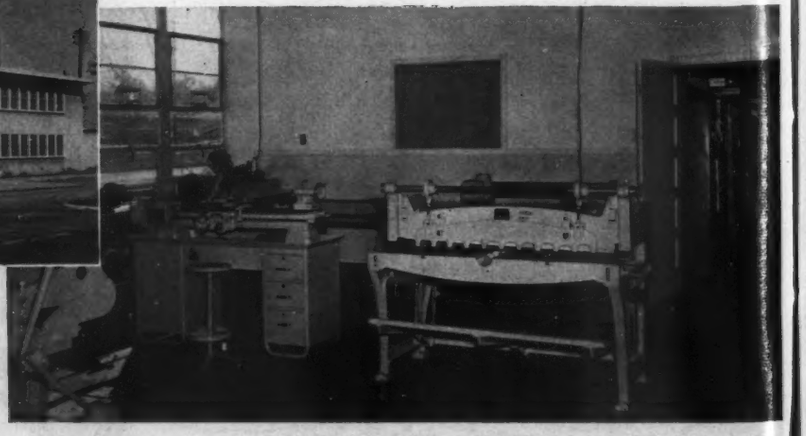
Page, Southerland & Page, Architects-Engineers

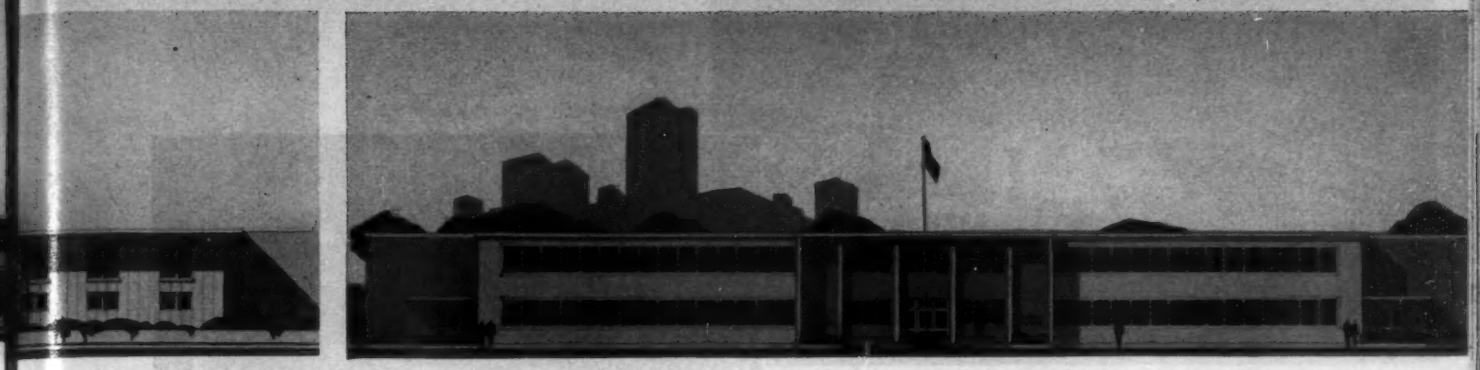
THE MILITARY construction program now getting into full swing has grown from the more limited scope of early post-World War II years. The three naval armories, or training centers, in Texas, shown here, were designed and built under direction of the Bureau of Yards and Docks and of the Public Works Officer, Eighth Naval District, to provide continuous training for officers and men of the Naval Reserve. Intended for night classes in Navy trades and professions — ship fitters, electricians and electronics mates, storekeepers, yeomen, radio and radar men, hospital men, ships' cooks, etc. — each building was required to utilize surplus metal Butler buildings grouped behind a "head-house" of frame construction with stucco exterior. Construction is semi-permanent. The designers tried to make these three examples as attractive as possible; the inactive reservists using them were volunteers; some social occasions were expected, so there are included lounges, ladies' powder rooms, a small galley for refreshments. The Austin center (photos below, plan at right) was designed for 650 men, 100 officers. The others, at Dallas and Fort Worth, are comparable in size.

Studtman Photos



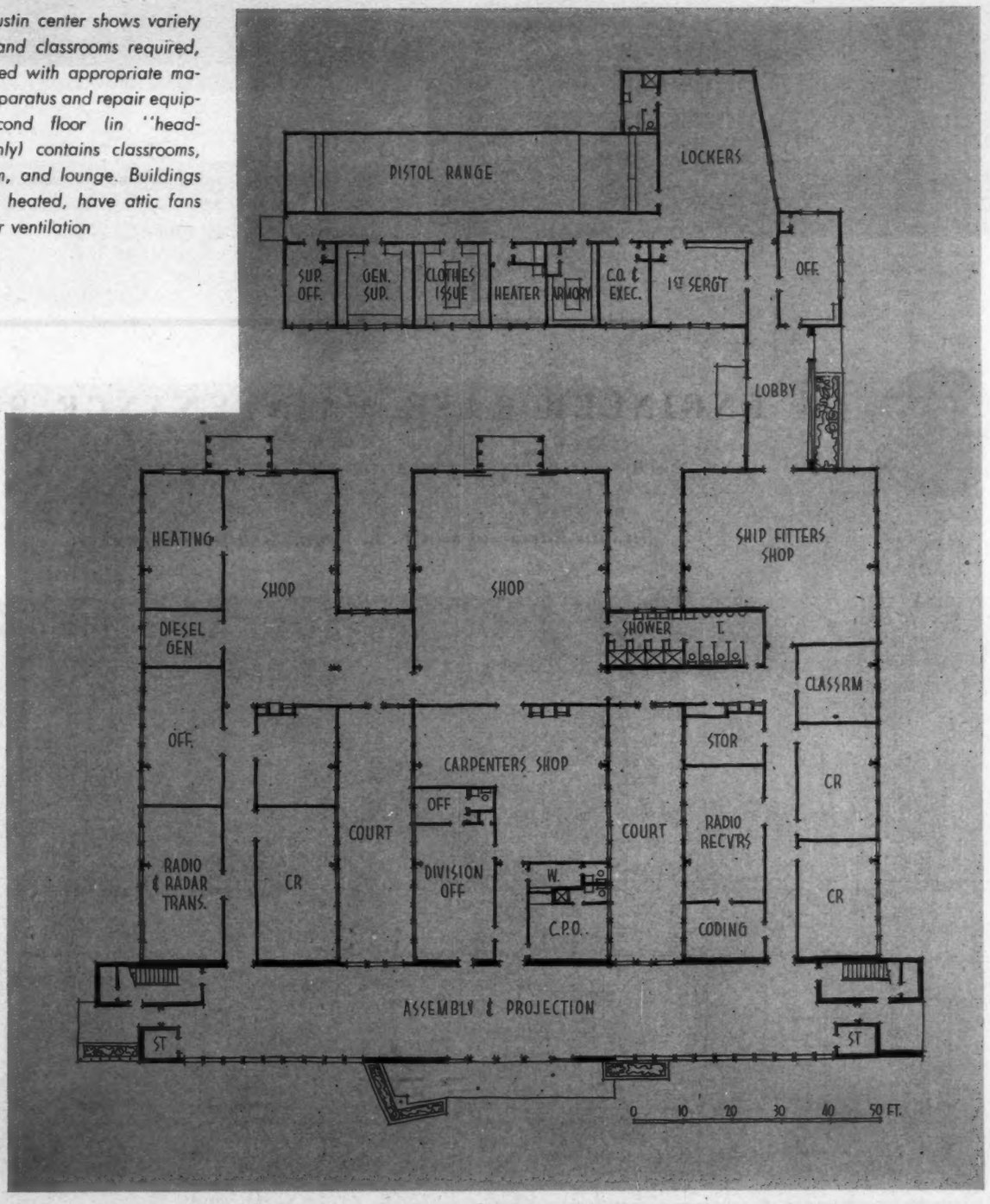
Ellison Photo





FORT WORTH, TEXAS

Plan of Austin center shows variety of shops and classrooms required, all furnished with appropriate machines, apparatus and repair equipment. Second floor (in "headhouse" only) contains classrooms, ward room, and lounge. Buildings are steam heated, have attic fans for summer ventilation



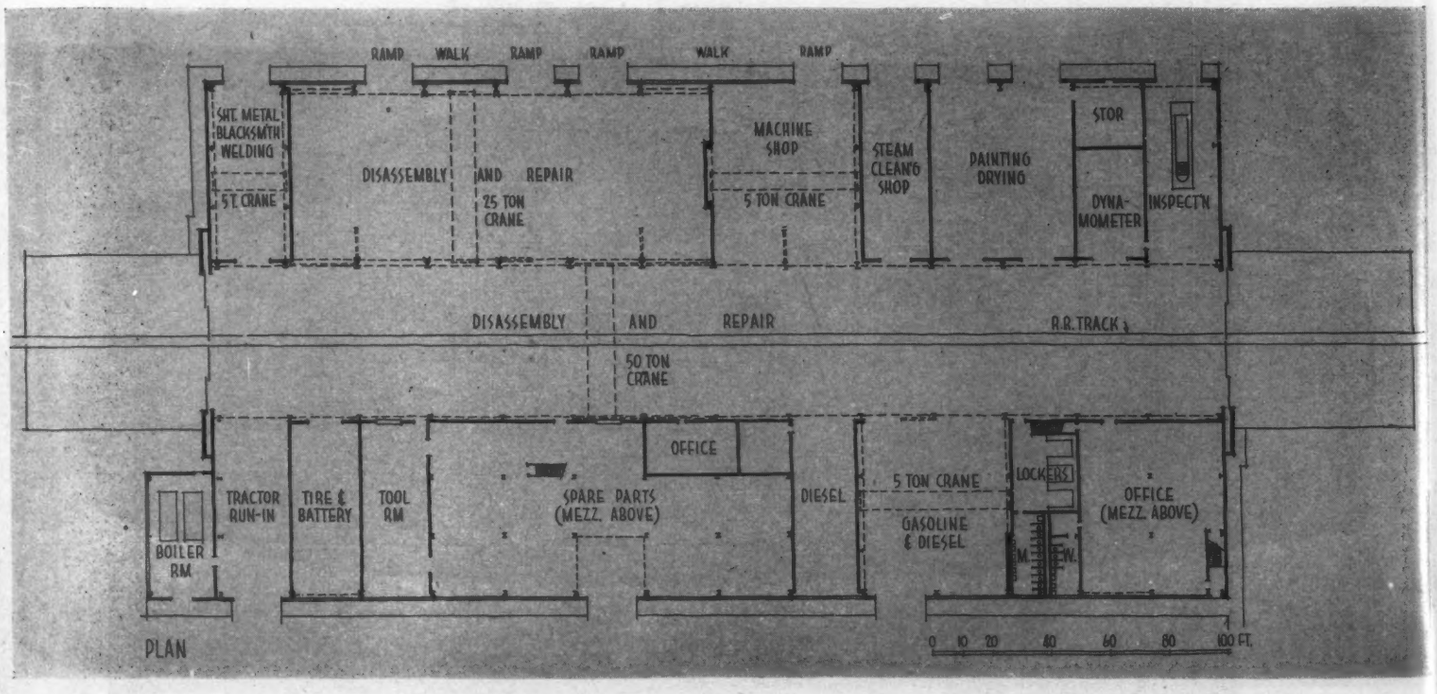
Naval Reserve Training Centers: left, above, Dallas; below, Fort Worth; immediately above, machine shop interior

W. D. Smith Photos

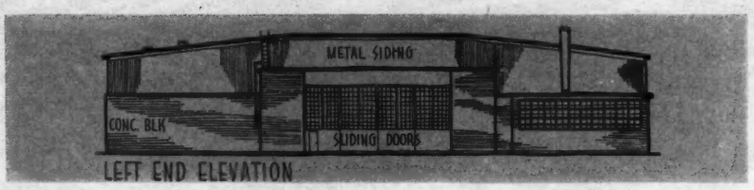
ENGINEER BASE MAINTENANCE SHOP

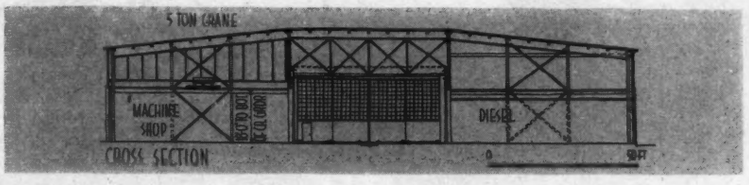
SCHENECTADY (N. Y.) GENERAL DEPOT

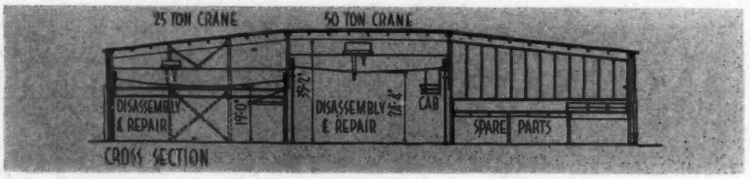
Antonin Raymond and L. L. Rado, Architect-Engineers

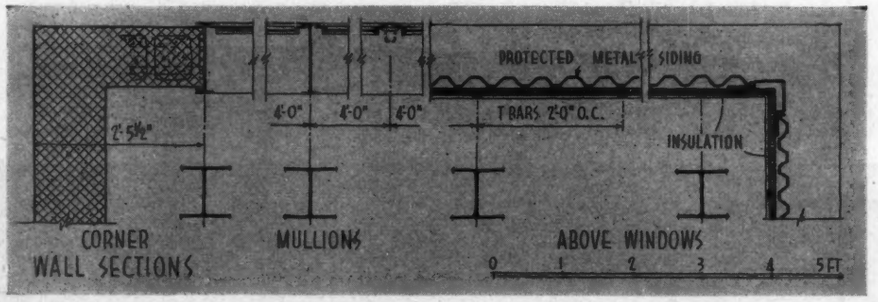


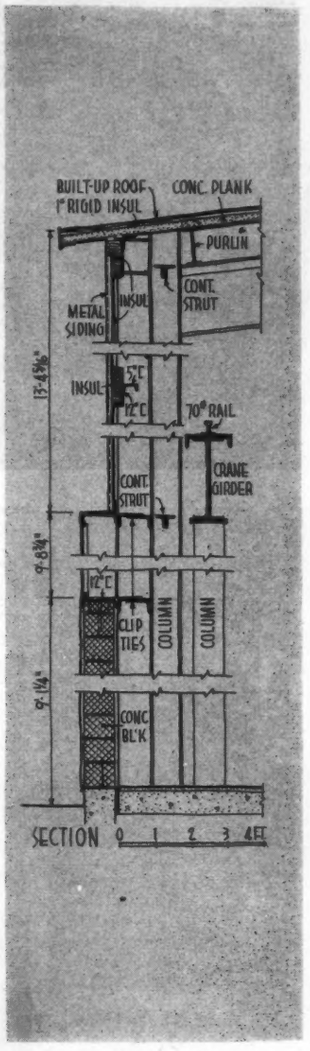
This structure is intended for the maintenance of heavy military equipment. The flow of work, following a prescribed pattern, required a number of cranes of different capacities; some to run parallel, others at right angles. This difficult structural requirement and the complicated mechanical problems necessitated complete coordination of the architectural, structural and mechanical elements and painstaking engineering. The building is a straightforward concrete block and protected metal structure—the simplest shell that could be designed to enclose the process. The walls by-pass the structure and the crane rail supports are independent of the building structure. Roof over center bay is flat to simplify the structural steel connections—another example typical of the design approach. Project will be built under direction of the Corps of Engineers, New York District









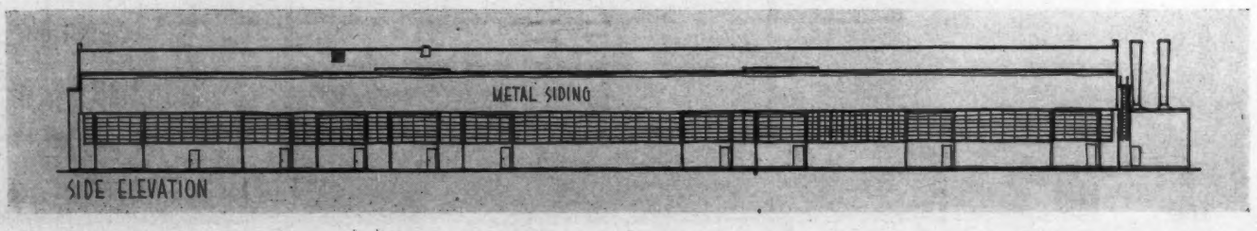


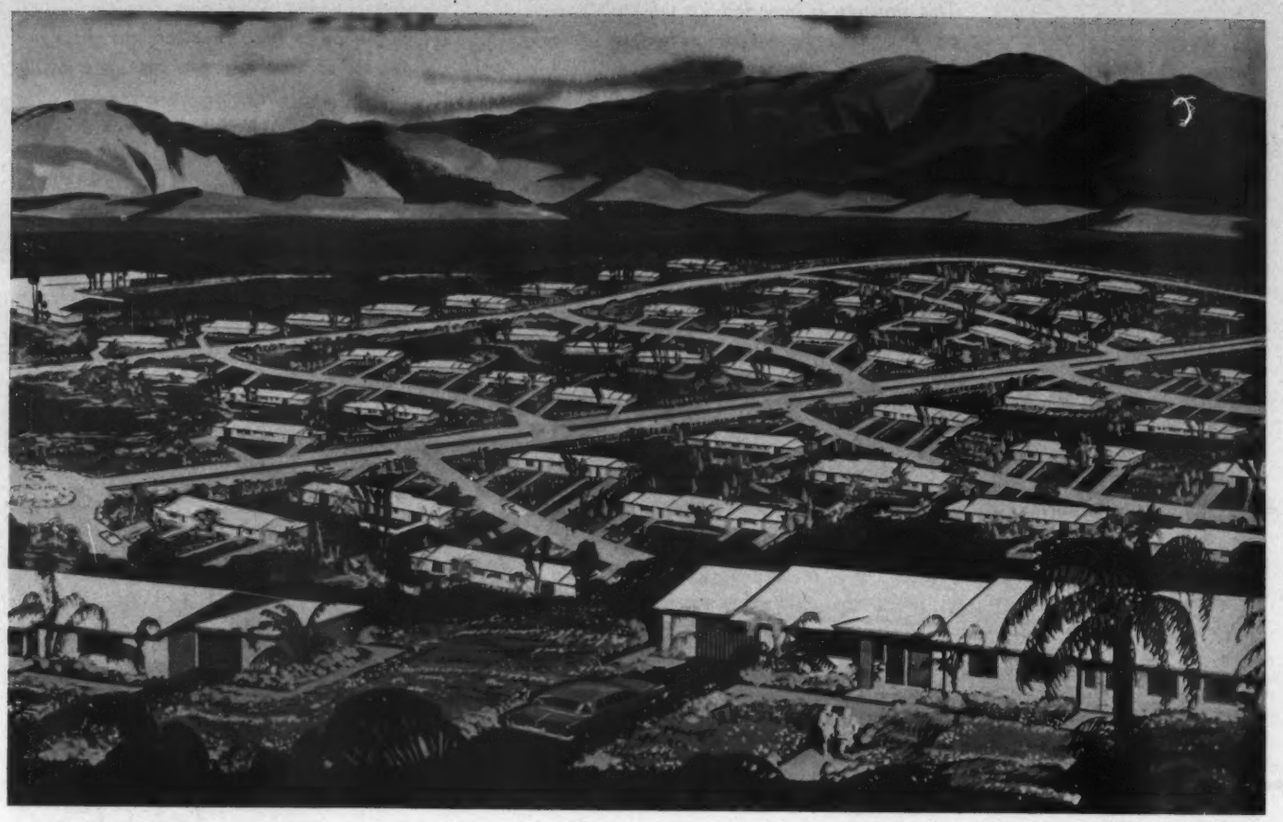
George E. Hartman, Col., Q.M.C., Commanding Officer

Alfred H. Davidson, Jr., Col., C.E., District Engineer

Charles K. Panish, Chief, Engineering Division

Stanley S. Haendel, Chief, Design Division

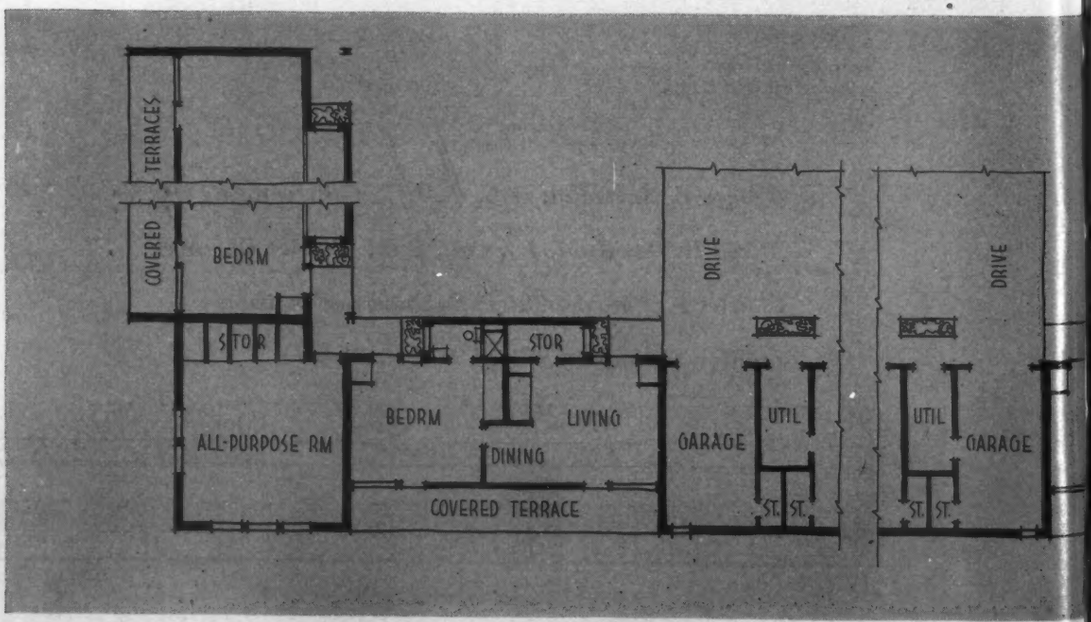


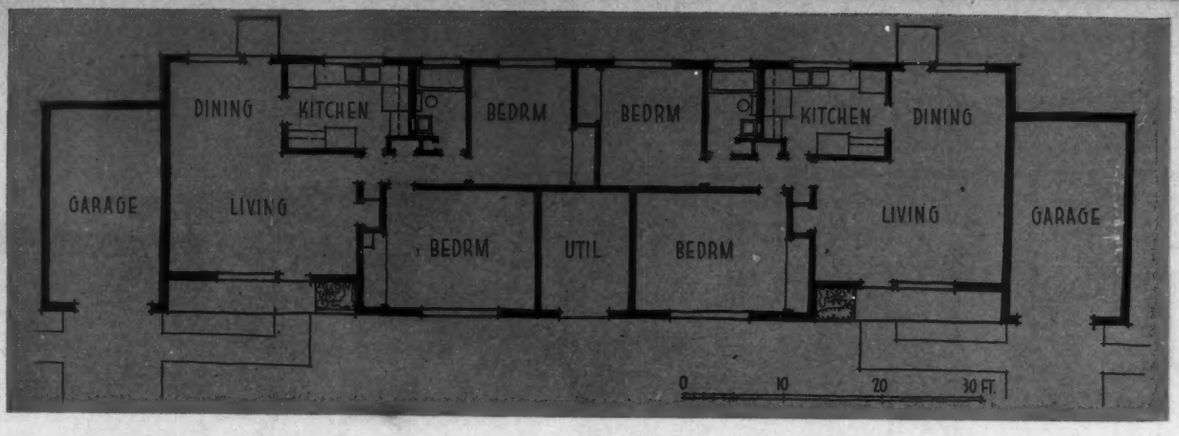


HOUSING, NAVAL TESTING STATION

INYOKERN, CALIFORNIA

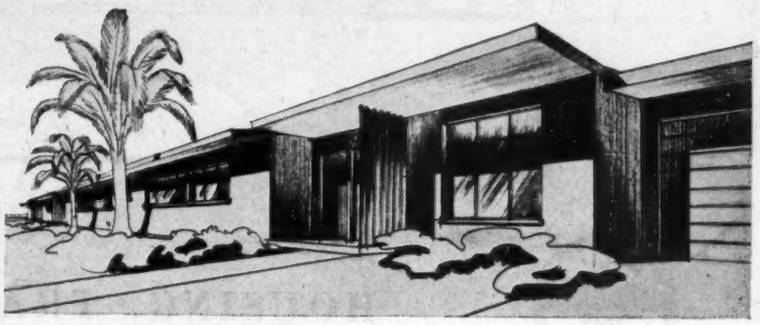
Kewell, Kocher & Benedict, Architects and Engineers

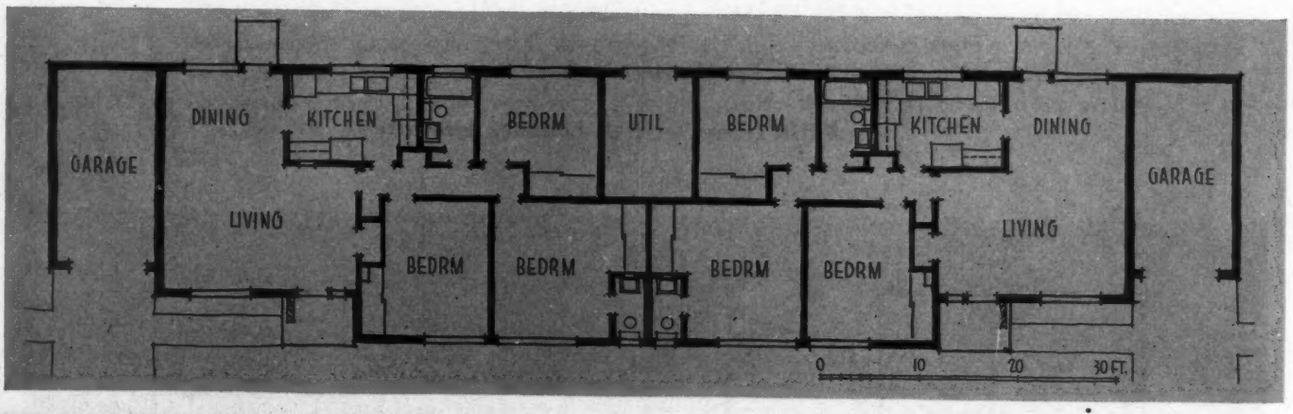


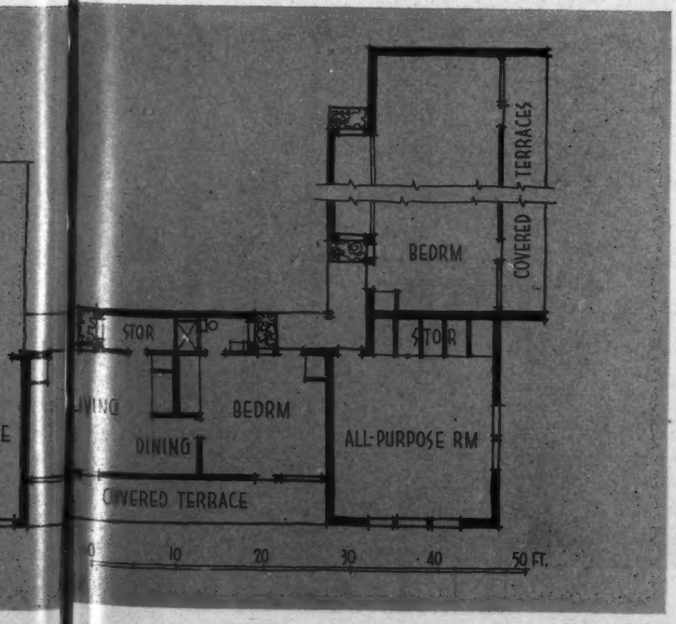


An expansion of existing Navy housing, design of the new portions was complicated because parts were interspersed among the old facilities; dwellings had to be provided both for childless couples and for families with children — who had to be near schools; at times the prevailing wind carries fine sand which penetrates even closed windows. 210 units were added, with blank end walls of buildings facing the wind. For speed and economy of construction, walls are concrete block made with local diatomaceous aggregate, integrally colored, providing structure, inside and outside finish, and insulation; interior partitions are dry wall; plumbing installations and kitchen cabinets are simple and nearly identical; etc. Instead of relying on orientation to attain relief from hot climate, buildings are completely air conditioned

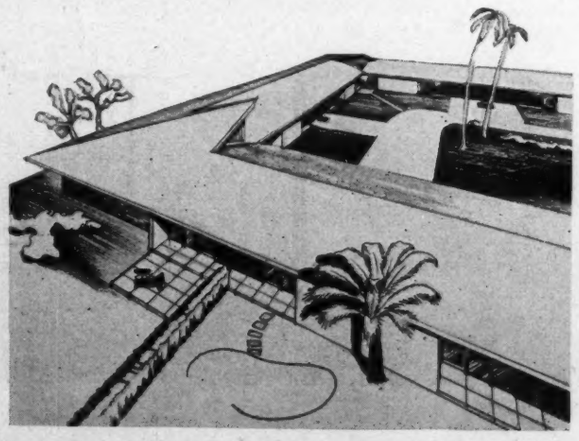
Above, two-bedroom duplex. Below, rendering and plan, three-bedroom duplex

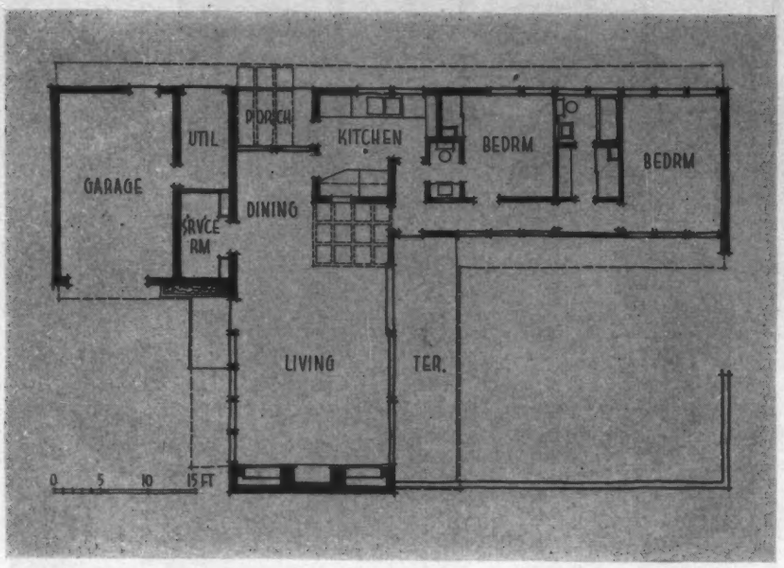


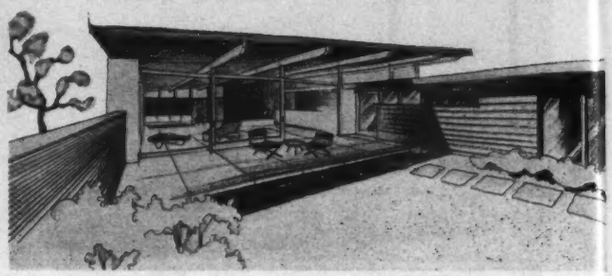




Left and below, one-bedroom "row house" type built around court. Soil at site can readily be surface-compacted, making possible inexpensive driveways and garage floors







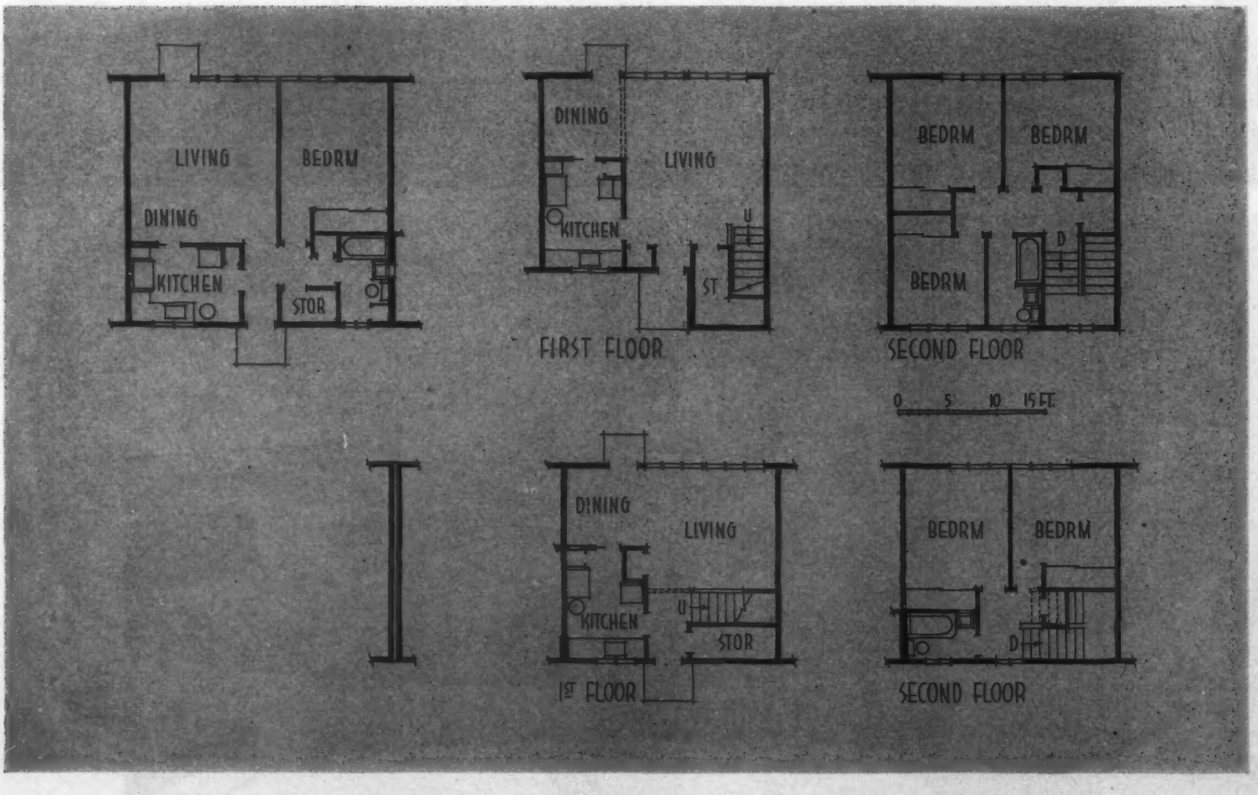
Housing at Inyokern: two-bedroom single unit. Many tenants fence and plant their lots, so even the multi-family buildings are designed to afford maximum outdoor privacy. Most of the ample glass wall areas are fixed

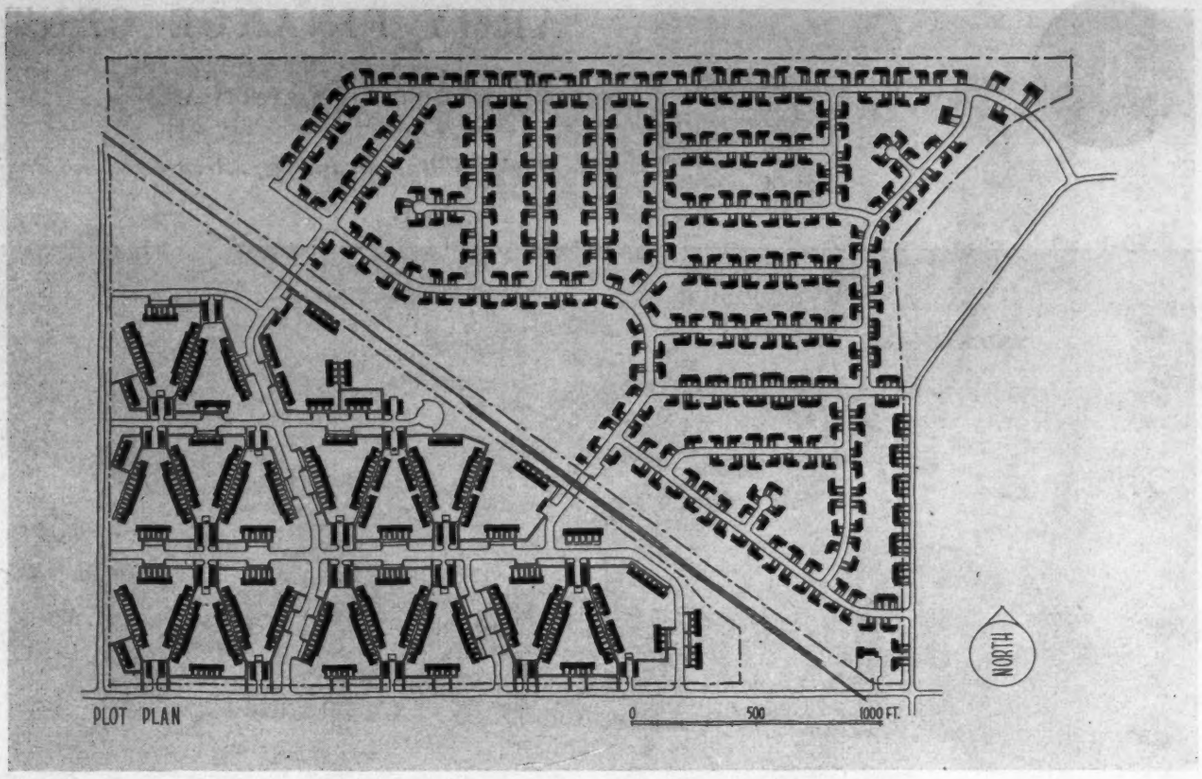
HOUSING, TRAVIS AIR FORCE BASE

FAIRFIELD, SOLANO COUNTY, CALIFORNIA

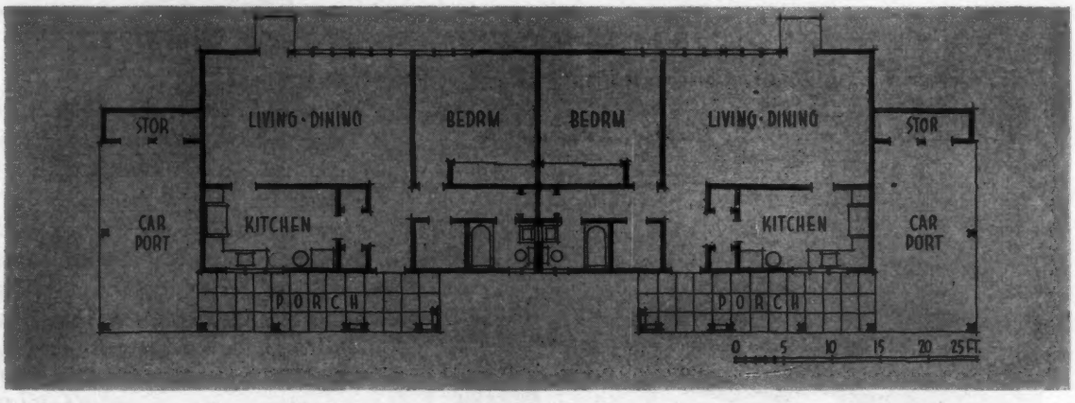
W. D. Peugh, Architect

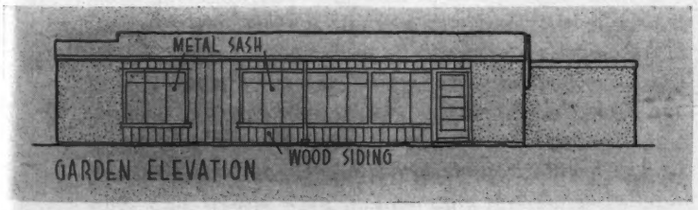
W. B. Glynn — A. J. Loubet, Associates

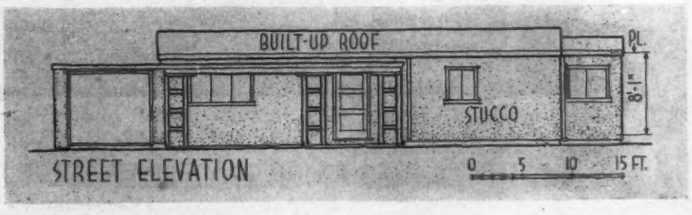




Designed, like other military housing in this issue, under provisions of the Wherry Act, Travis housing contains 58 one-bedroom, multi-family units renting at $46.50 a month; 296 two-bedroom, multi-family units ($56.50); 192 two-bedroom single units ($71.50); 156 three-bedroom single units ($82); and four four-bedroom single units ($99.50). Some are one story, others two; all are frame construction. Typical unit plans are on facing page; below is a two-family duplex



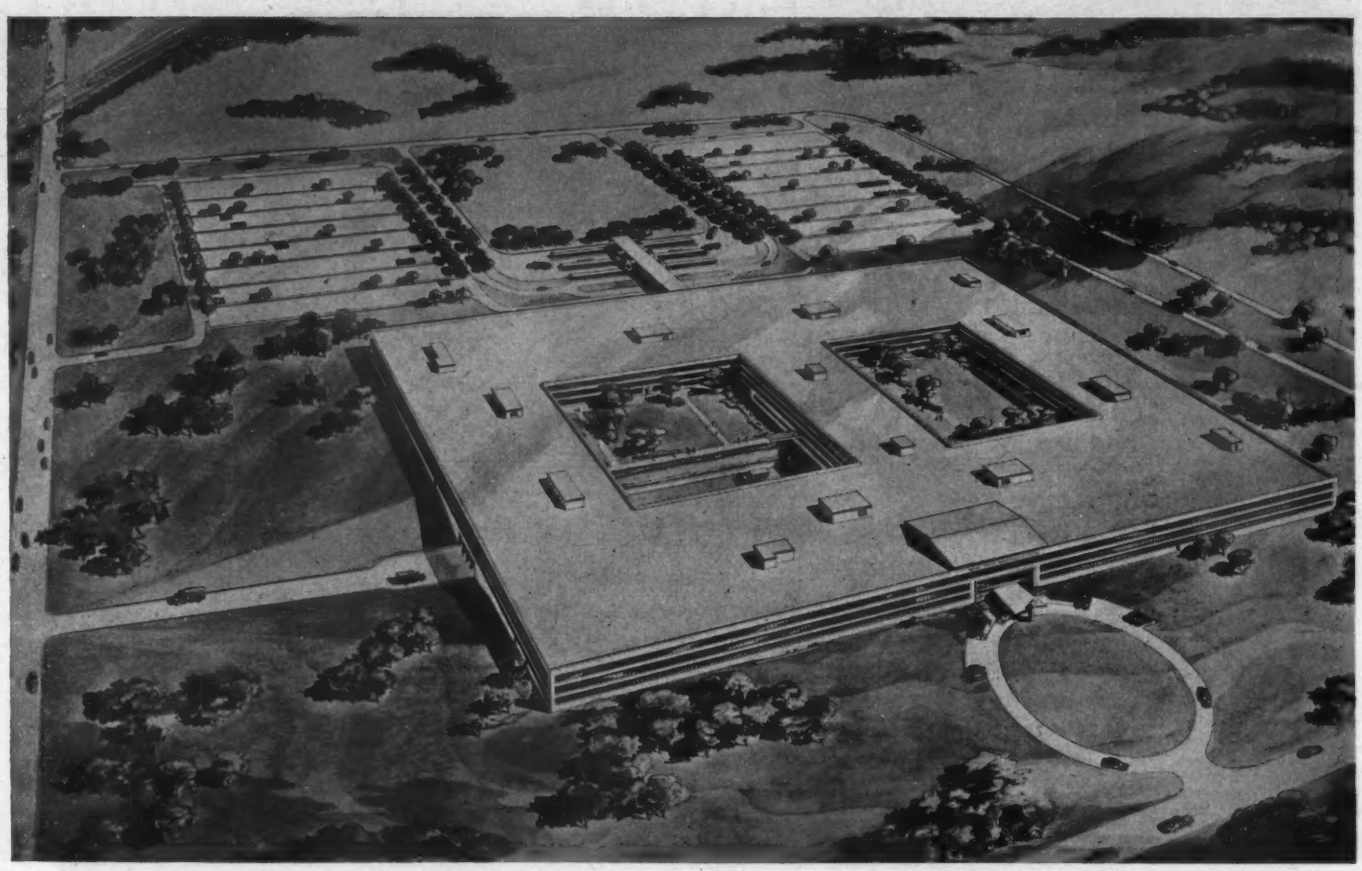




ARMY FINANCE CENTER

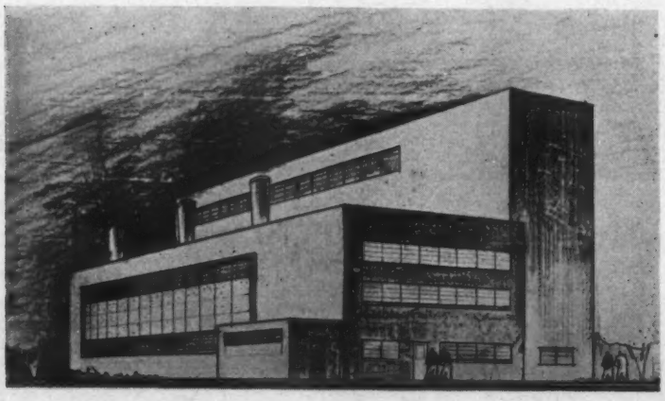
FORT BENJAMIN HARRISON, INDIANAPOLIS, INDIANA

Harley, Ellington and Day, Architects and Engineers

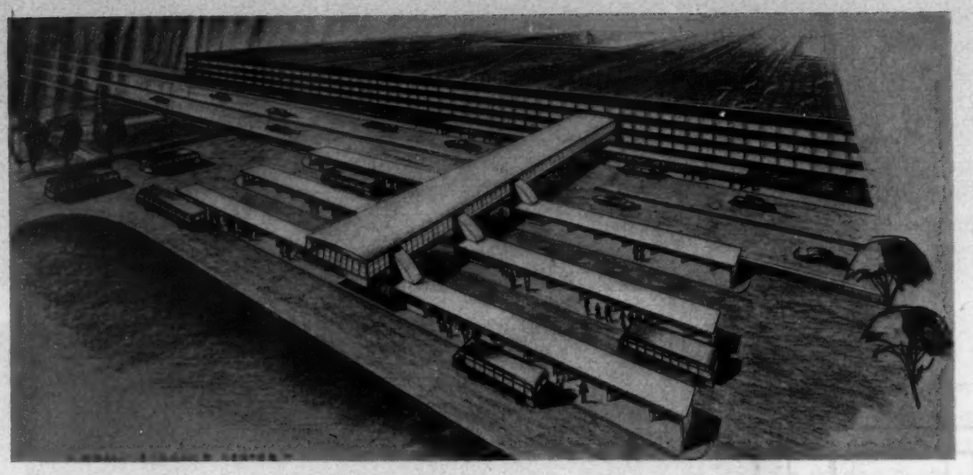


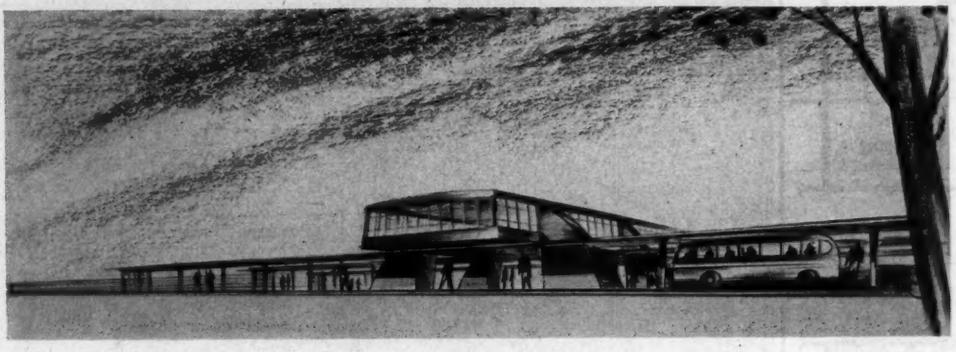
Brig. General E. J. Bean, Commanding

J. P. Campbell, Col., C.E., District Engineer



Now under construction, the Army Finance Center is to serve U.S. Army and Air Force personnel and their dependents throughout the United States and around the world. The reinforced concrete main structure (above and across page) will be 1000 by 600 ft, three stories high, with over 1½ million sq ft of office space and a 6000 sq ft bus concourse. Due to heavy weight of files and machines used, design floor loads are 175 lb per sq ft. Equipment will include a complete intercommunicating and telephone system, special fire protection measures including a sprinkler system, central heat with direct radiation, fluorescent lighting, kitchen and cafeteria to accommodate 2000 at a sitting. Business machine rooms will be air conditioned. Ramps will provide main vertical access for ease in moving heavy files, etc.; stairs are to be for emergencies; freight elevators will carry the heaviest loads. Boiler house, left, is also concrete



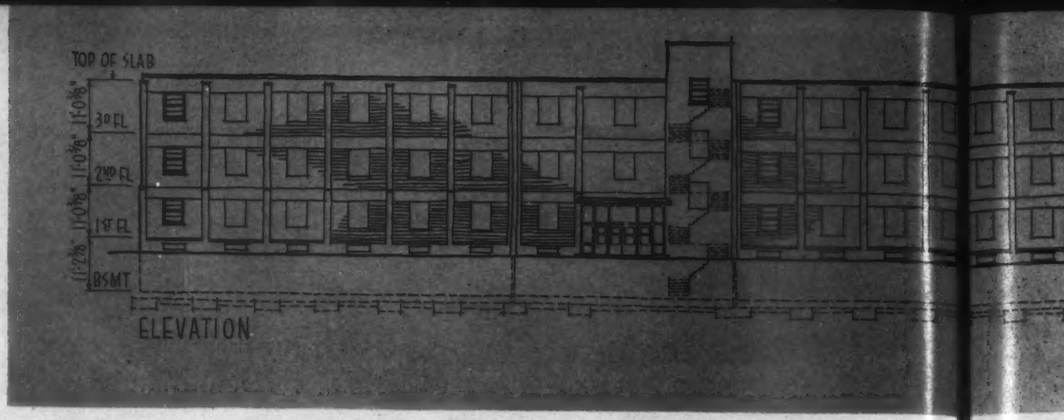


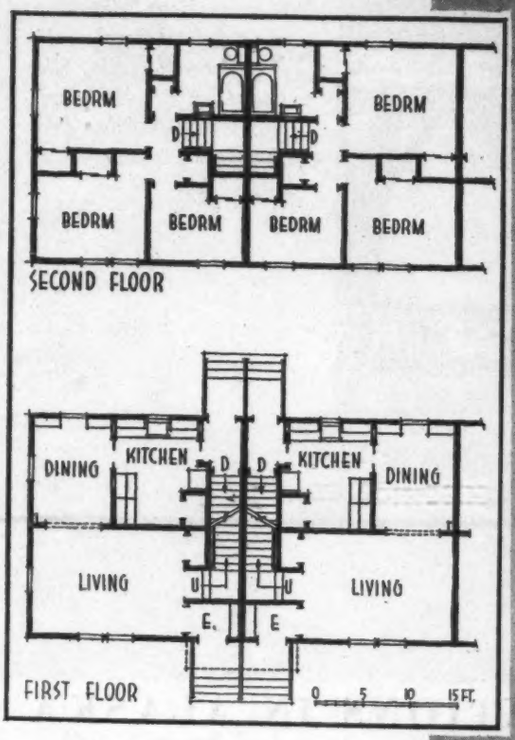
Many of the multitude of employees in the Army Finance Center will arrive daily by bus; for the smaller number who will drive to work there are huge parking fields. The direct bus approach (left) is designed for safe, efficient loading and unloading, with bus passengers entering the building at the second floor

MILITARY INSTALLATIONS IN ALASKA

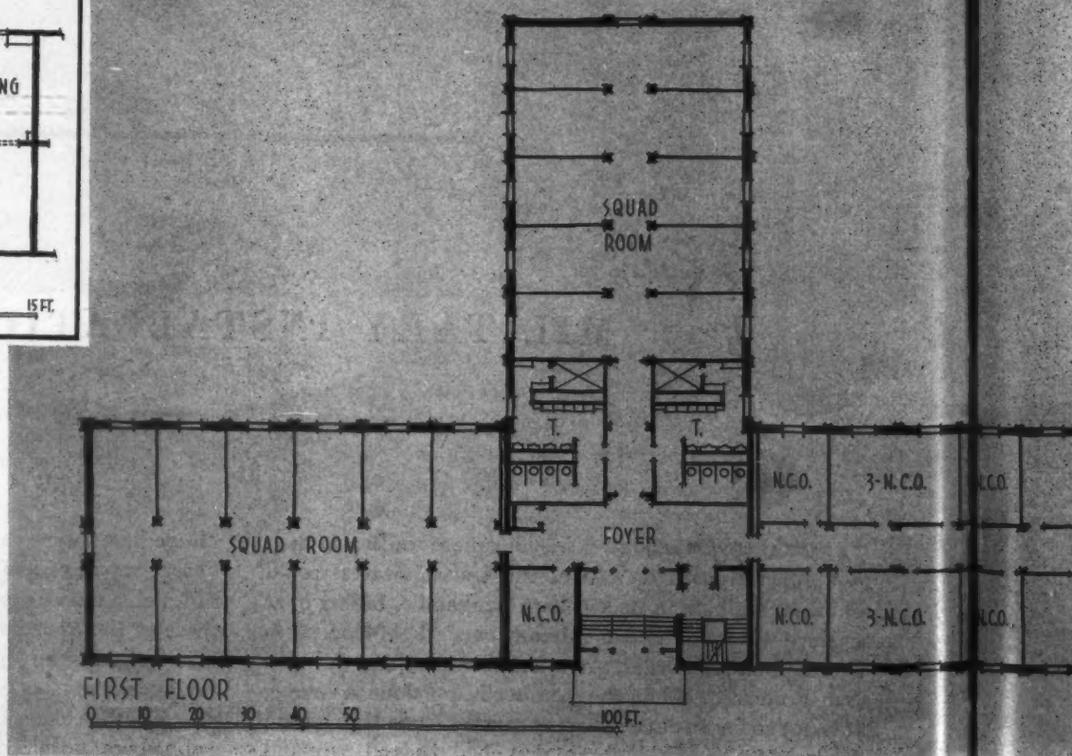
ALASKA covers about 585,000 square miles; a map superimposed on one of the United States would show Ketchikan, in its southern panhandle, falling over eastern Georgia, Point Barrow over the Minnesota-North Dakota border, Attu between Los Angeles and San Francisco. While the weather in portions is severe, it is not so for an entire year; at most seasons Ketchikan, for instance, is mild and rain drenched. Indeed, rain and snow precipitation ranges from 50 to more than 200 inches a year except above the Arctic Circle, which poses quite a different set of structural problems than those met in continental U.S.A. About 1938 extensive defense construction began in Alaska; airfields were improved, radio and weather services were established, and sea-air bases were begun. During World War II, supplies and troops were poured into the Territory and huge bases were rushed to completion. These were to a great extent of temporary construction, the life of which in such a climate is none too long. The bulk of this work was on the Aleutian chain; and since the war, re-evaluation of Alaskan operations in the light of world-wide requirements has been in process. These military studies have led to decisions to locate the necessary facilities elsewhere in the Territory, and to make them of permanent type; most of the new buildings are required to be concrete, or steel and concrete. As a result, military construction in 1949 amounted to about $100 million; in 1950, $70 million; and the prospective programs for 1951 and '52 are substantially larger. The tremendous volume of work involved is administered by Colonel L. E. Seeman, Alaska District Engineer, U.S. Corps of Engineers.

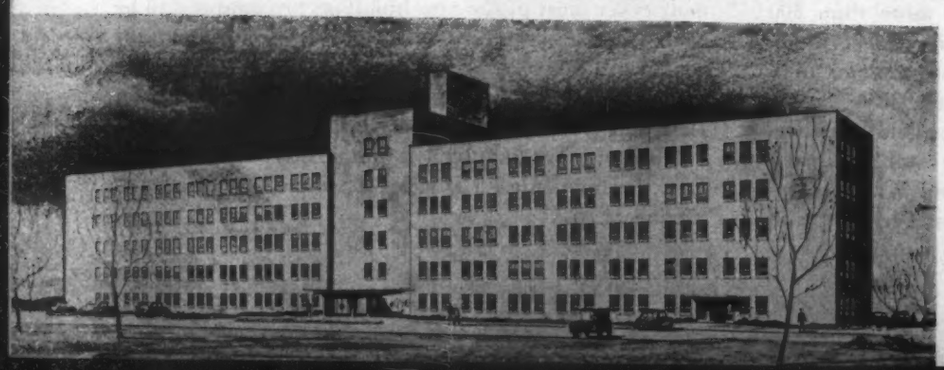
At right are elevation and a partial plan of a huge 750-man barracks at an Alaskan base. Right wing duplicates the left. Upper floors contain enlisted men's quarters, etc. Concrete framed, with concrete block curtain walls, such buildings must withstand extremes of temperature (note expansion joints) and earthquake stresses. Office of Pietro Belluschi, Portland, Ore., Architects-Engineers



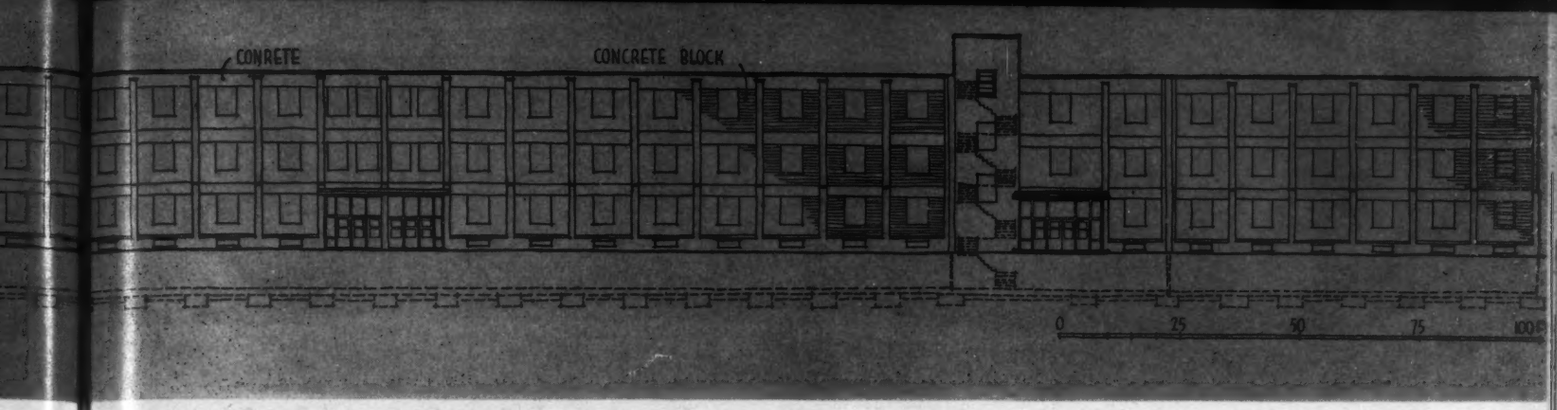


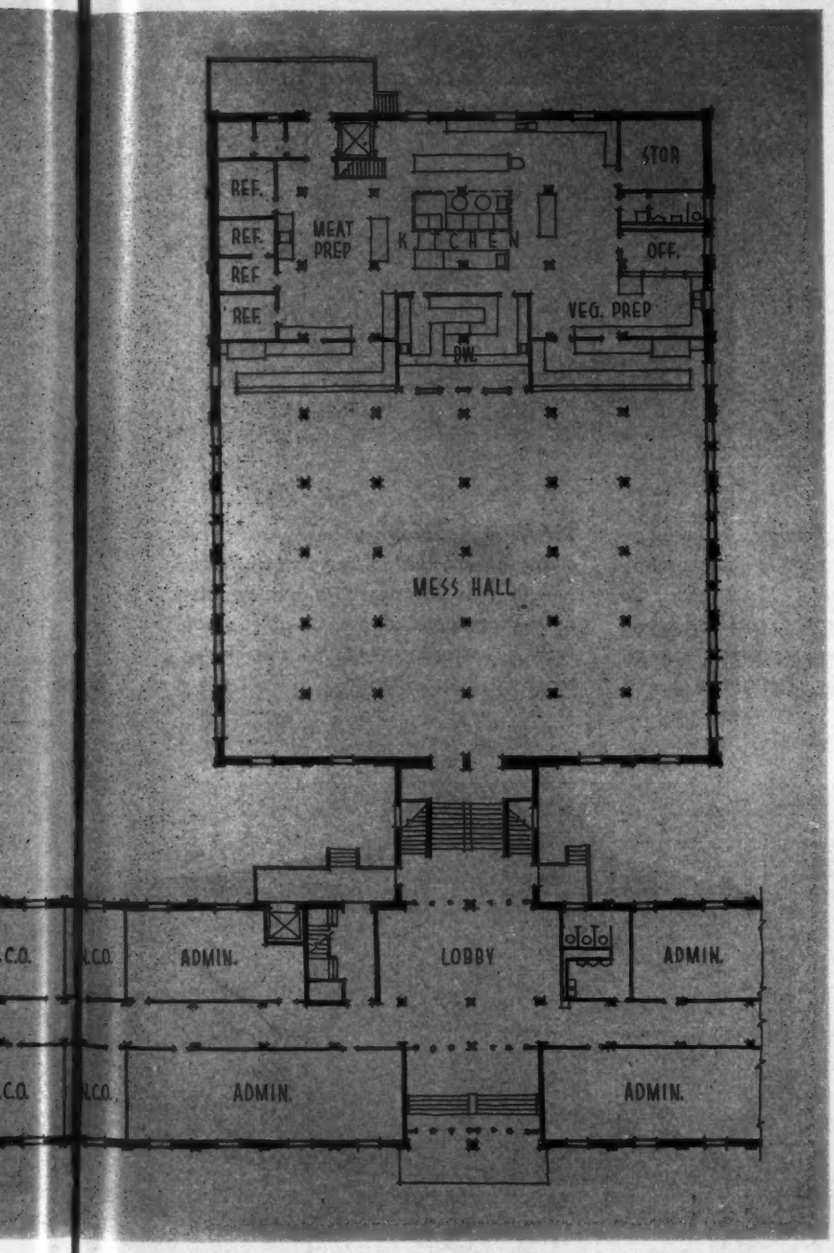
Above, part plans of two-story, eight-family housing units at an Alaskan base. Construction is wood frame with asbestos-cement shingled walls and flat roof. The full basements have laundries and drying spaces, required by the climate; buildings designed by the Corps of Engineers





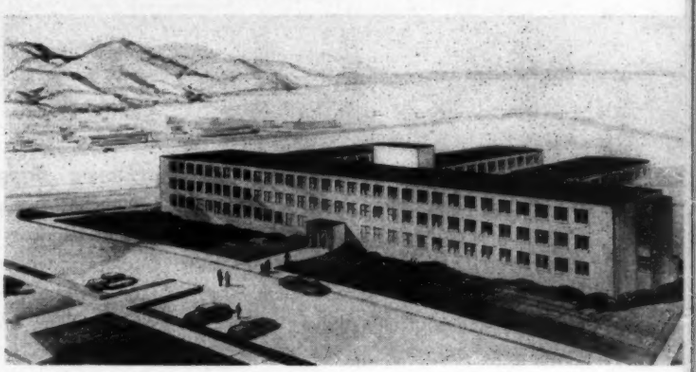
Left, a five-story steel-and-concrete hospital at an Alaskan air base; Naramore, Bain, Brady & Johanson, Architects and Engineers

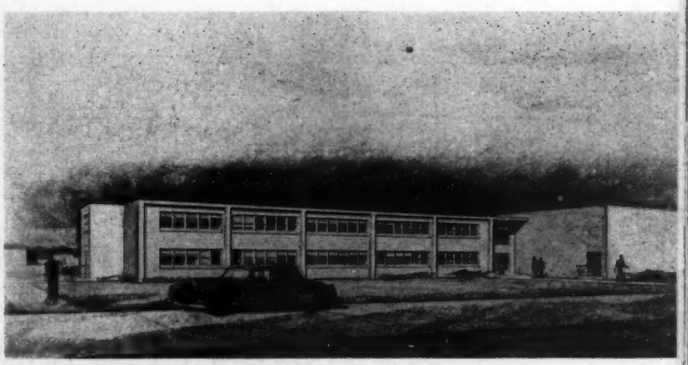




Three buildings below show the type of work now getting under way as part of the multi-million dollar program in Alaska. Top to bottom: Composite Administration Building at one of the large bases; Headquarters Building for a task force at an air base (both by Naramore, Bain, Brady & Johanson of Seattle); and a 500-man barracks by Fay, Spofford & Thorndike of Boston

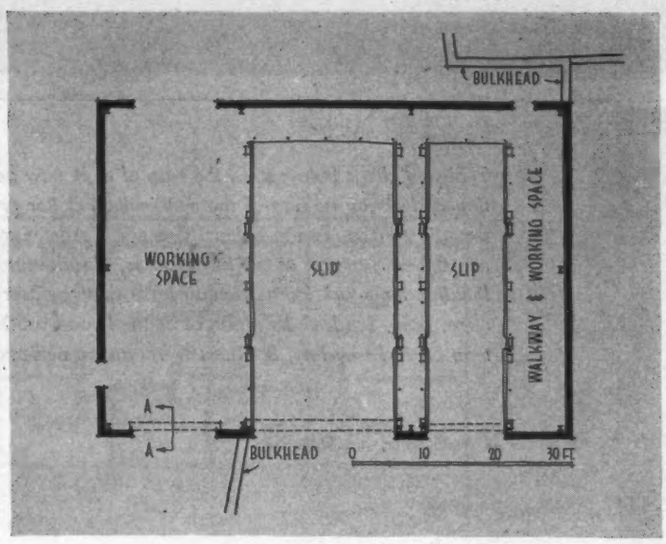
Photos courtesy Alaska District, Corps of Engineers





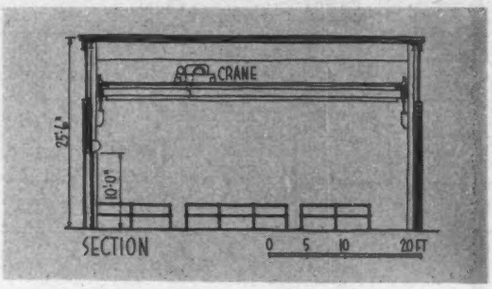
ENGINEER RESEARCH AND DEVELOPMENT LABORATORIES, FORT BELVOIR, VA.

Hugh Johnson Associates, Inc.



Major General Douglas L. Weart, Commanding General, the Engineer Center and Fort Belvoir

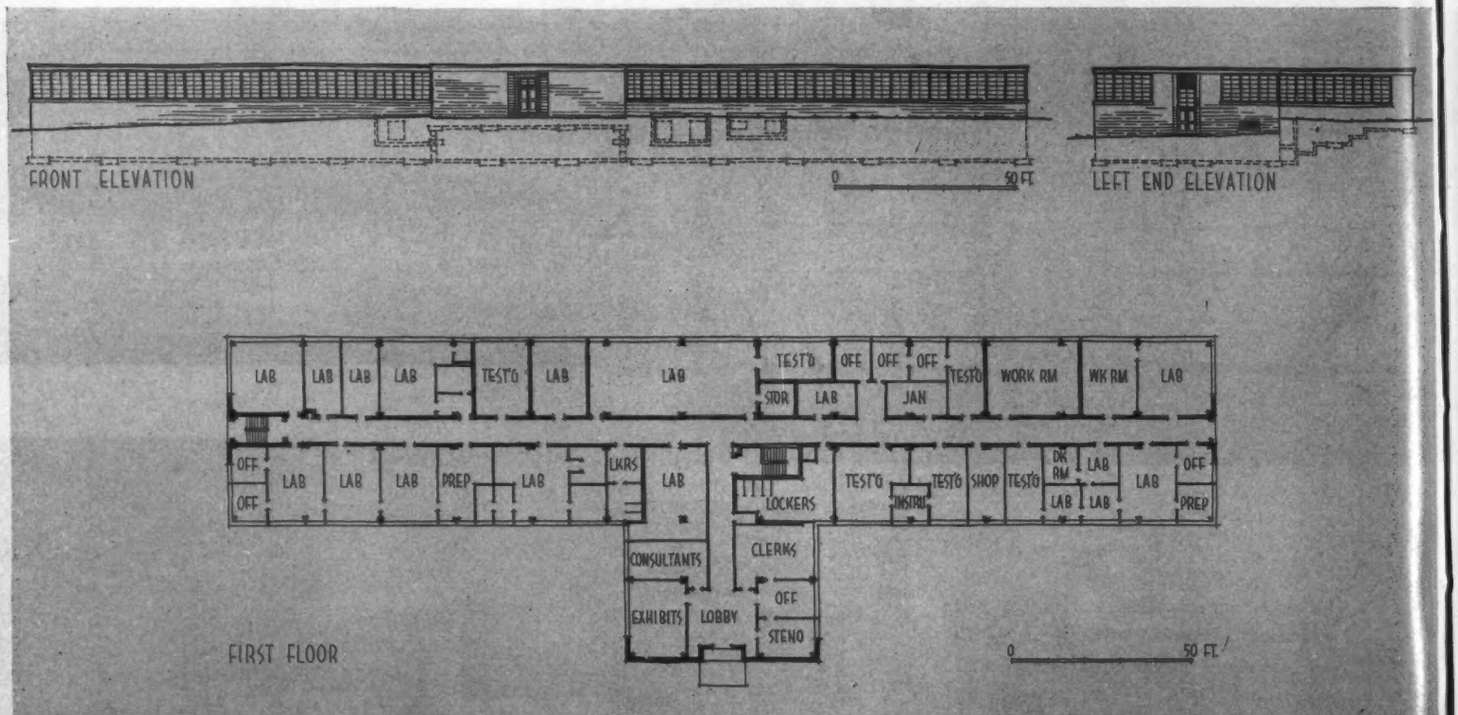
Colonel Oscar B. Beasley, Commanding Officer, Engineer Research and Development Laboratories

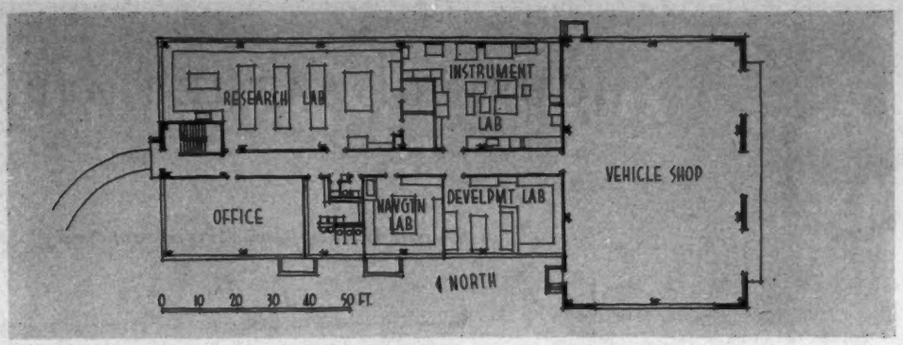


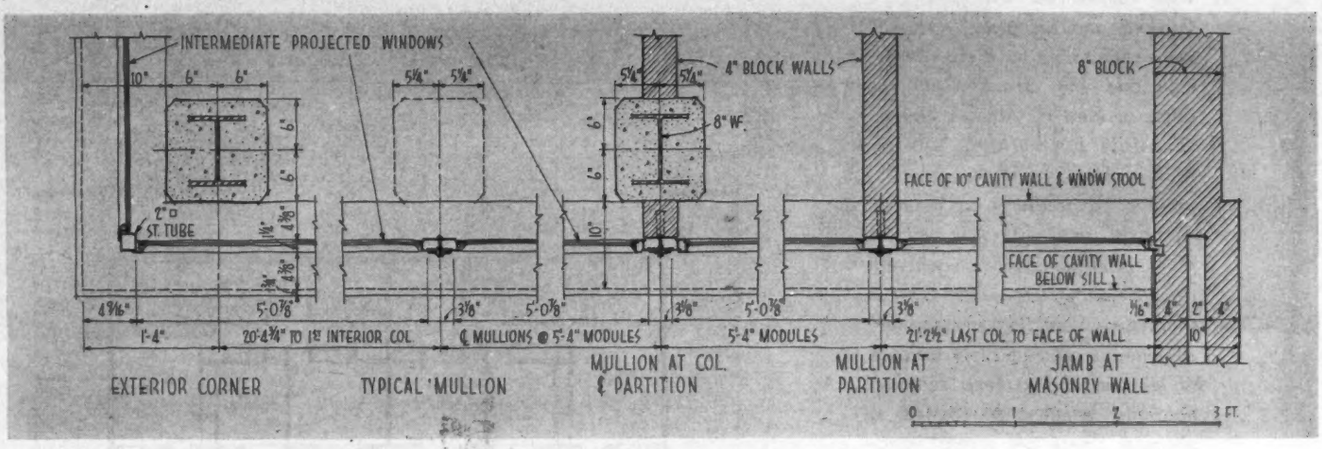
The four buildings shown here are part of a large expansion program for the Corps of Engineers' Research and Development Laboratories. All were stipulated to be of concrete block with 2-hour fire rating, except unit above

Floating Bridge Facility, *above, required a traveling crane to transfer heavy materials from water in the slips to adjoining working space, and land access for delivering and removing material. All buildings are similar in design*

Materials Laboratory, *below, is quite similar to an industrial research building. Initially it was planned to employ laboratory partitions of the movable metal type, but in order to reduce cost cinder block was used instead*

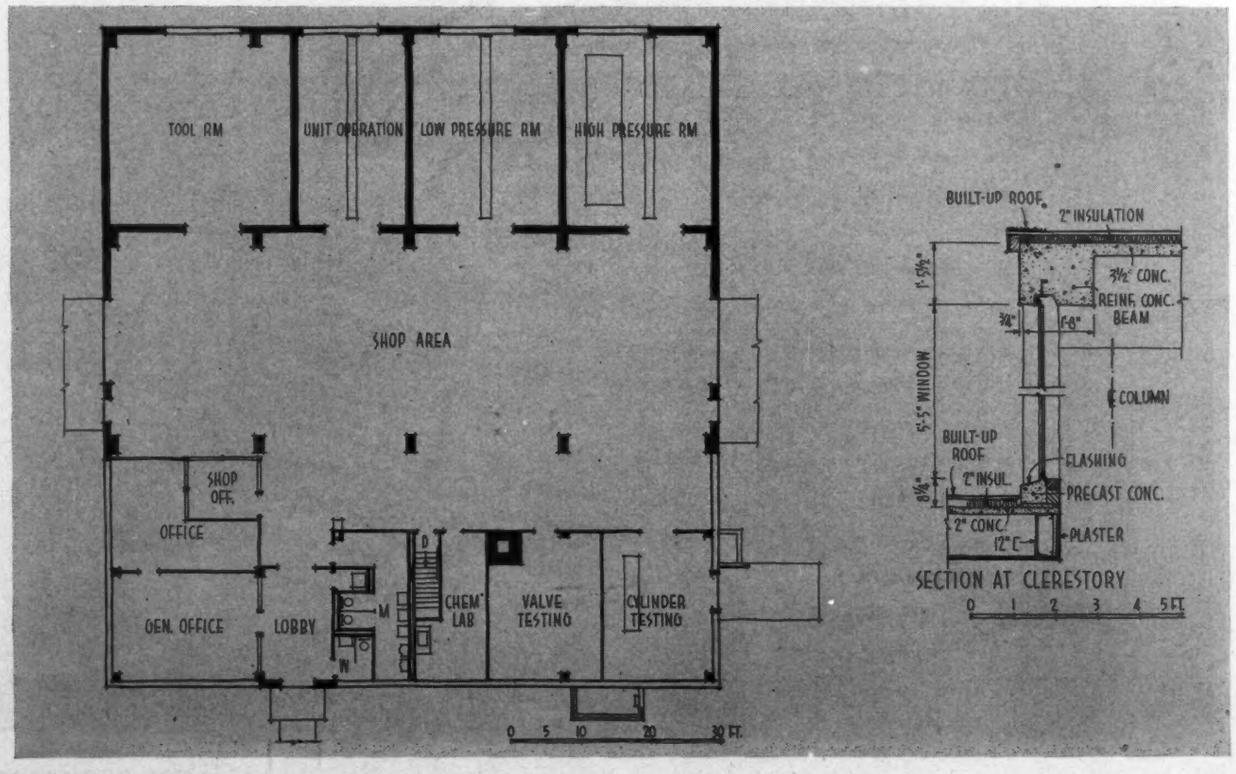






Mine Detection, Test and Development Laboratory, *above, demonstrates the standard design module. Based on width of a steel window plus mullion, 5 ft 4 in., this established width of laboratories: 10 ft 8 in. or 16 ft*

Compressed Gas Laboratory, *below, contains offices and laboratories along a two-story shop area which is lighted by clerestories. In some rooms much noise is produced by compressors. There is acoustic treatment to lessen reverberation; cavity-wall partitions and insulated doors are employed to reduce sound transmission. Windows have explosion-release features as safeguards in case of accidental explosions. Detail shows typical framing and roof construction*

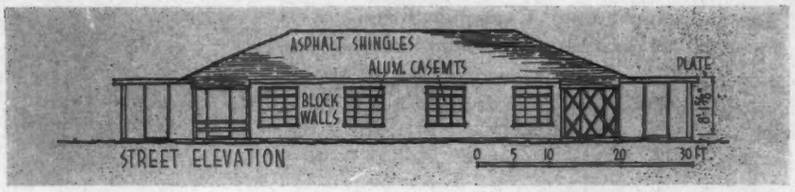


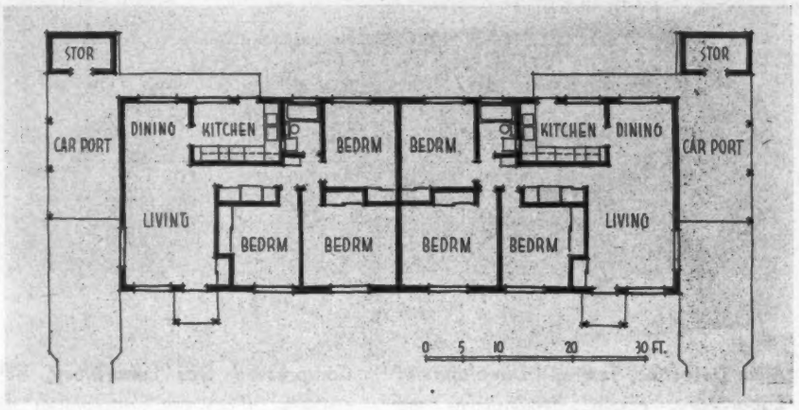
HOUSING, MATHER AIR FORCE BASE

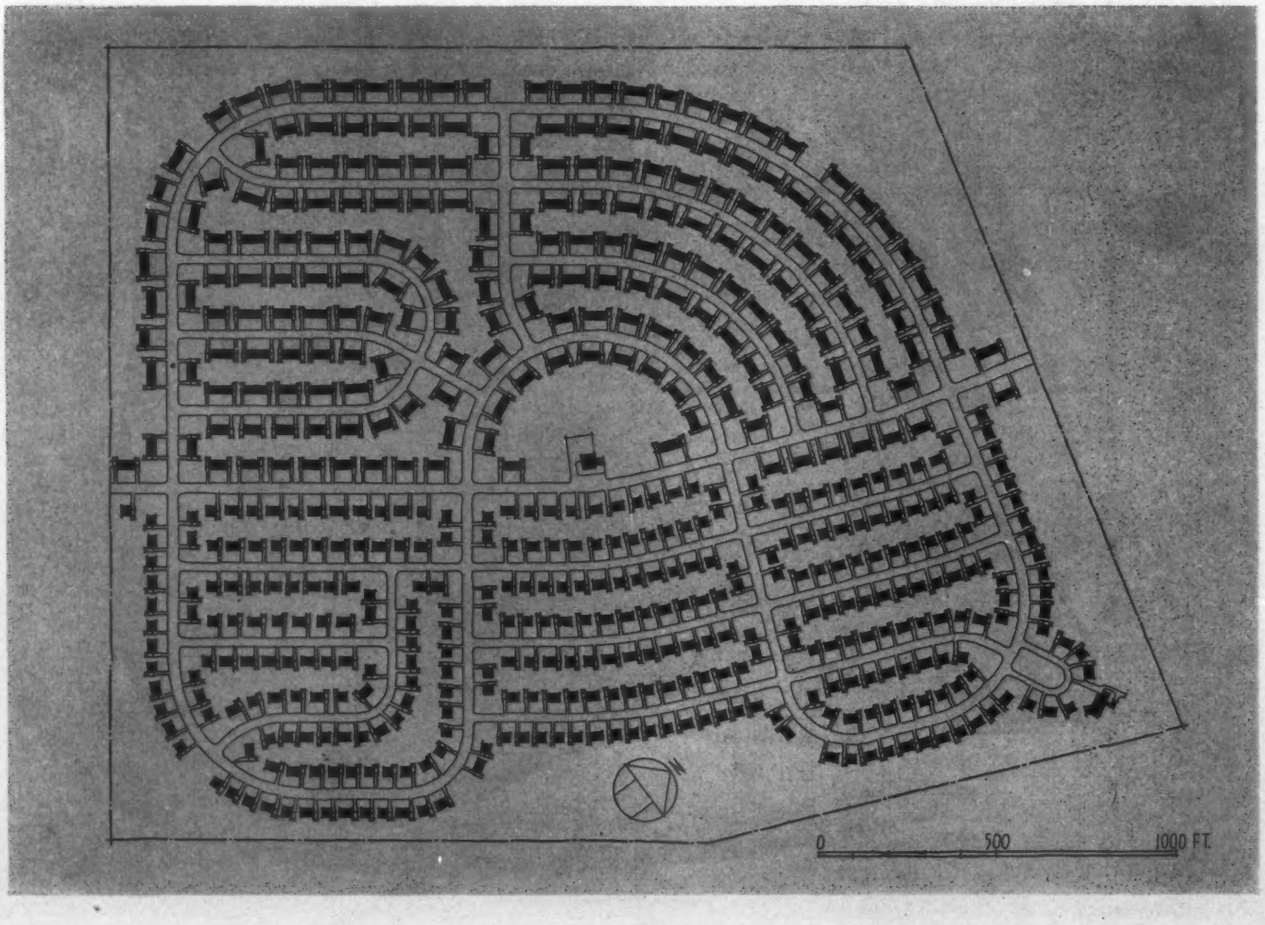
SACRAMENTO, CALIFORNIA

Joseph H. Gaylord, Architect; Ned H. Abrams, Associate Architect

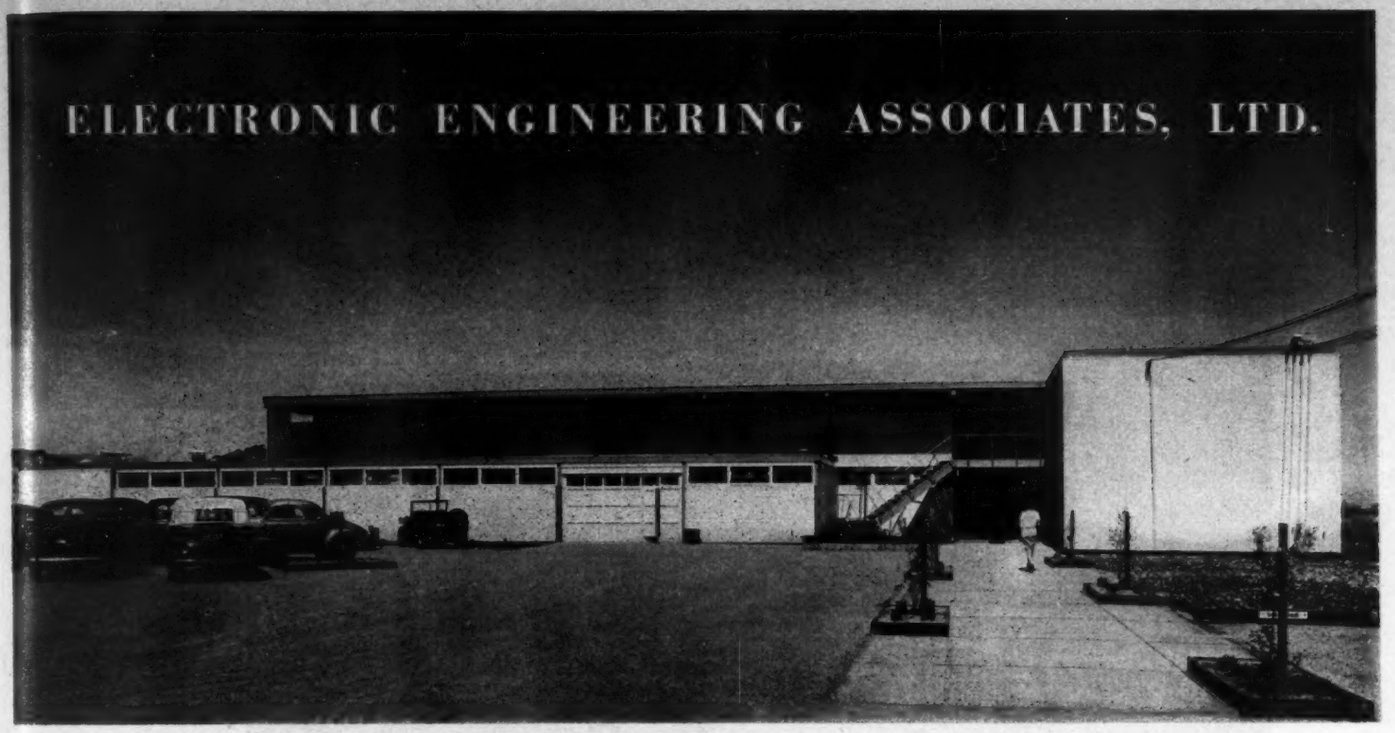
Work on Mather Heights housing was commenced by Joseph H. Gaylord and his associates, who were responsible for the initial design and site arrangement. The office of Ned H. Abrams was responsible for building design. Mather Heights, a Wherry Act project, was too large for a single mortgage, so it was split into two parts, North and South, each with approximately the same number and types of buildings. These were designed in concrete block for ease of erection and to keep construction and maintenance costs to a minimum. There are several variations in size, plan and elevation on the three-bedroom unit shown at the right







ELECTRONIC ENGINEERING ASSOCIATES, LTD.



Roger Sturtevant Photos

San Carlos, California

Francis Joseph McCarthy, Architect

WINNER of second place * in the industrial class in the 1951 Honor Awards Program of the American Institute of Architects, this compact new plant houses three functionally separate but mutually interdependent organizations: Sierra Electronics Corporation, developers of electronic equipment; Sierra Manufacturing Company, the manufacturing group; and Electronic Engineering Associates, Ltd., the merchandisers and owners of the building. It was planned as the basic unit of a much larger plant, and eventually will be used solely by the development and merchandising groups. Plans for the second unit (manufacturing) are already under way.

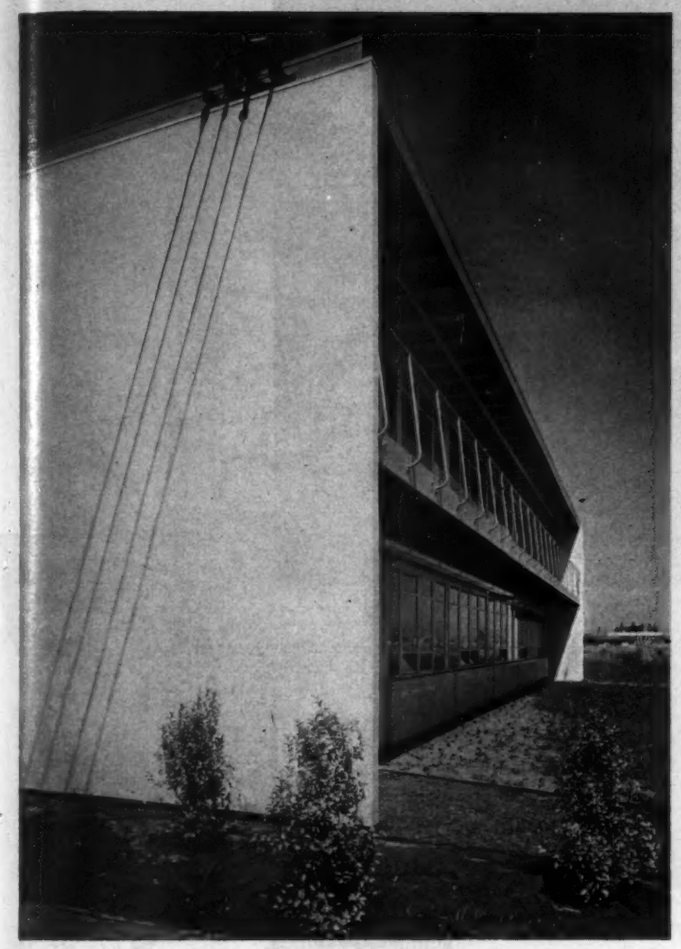
At the present moment, the development company occupies the entire ground floor (page 127). Offices

* *First place was won by the Houston Coca-Cola Bottling Company, Stone & Pitts, Architects and Engineers, featured in* ARCHITECTURAL RECORD, *February 1951, pp. 120–127.*

ELECTRONIC ENGINEERING ASSOCIATES, LTD.

A. V. Saph, Jr., Structural Engineer
G. M. Simonson, Mechanical Engineer
Douglas Baylis, Landscape Architect
Baker Construction Company, Contractor

Roger Sturtevant Photos

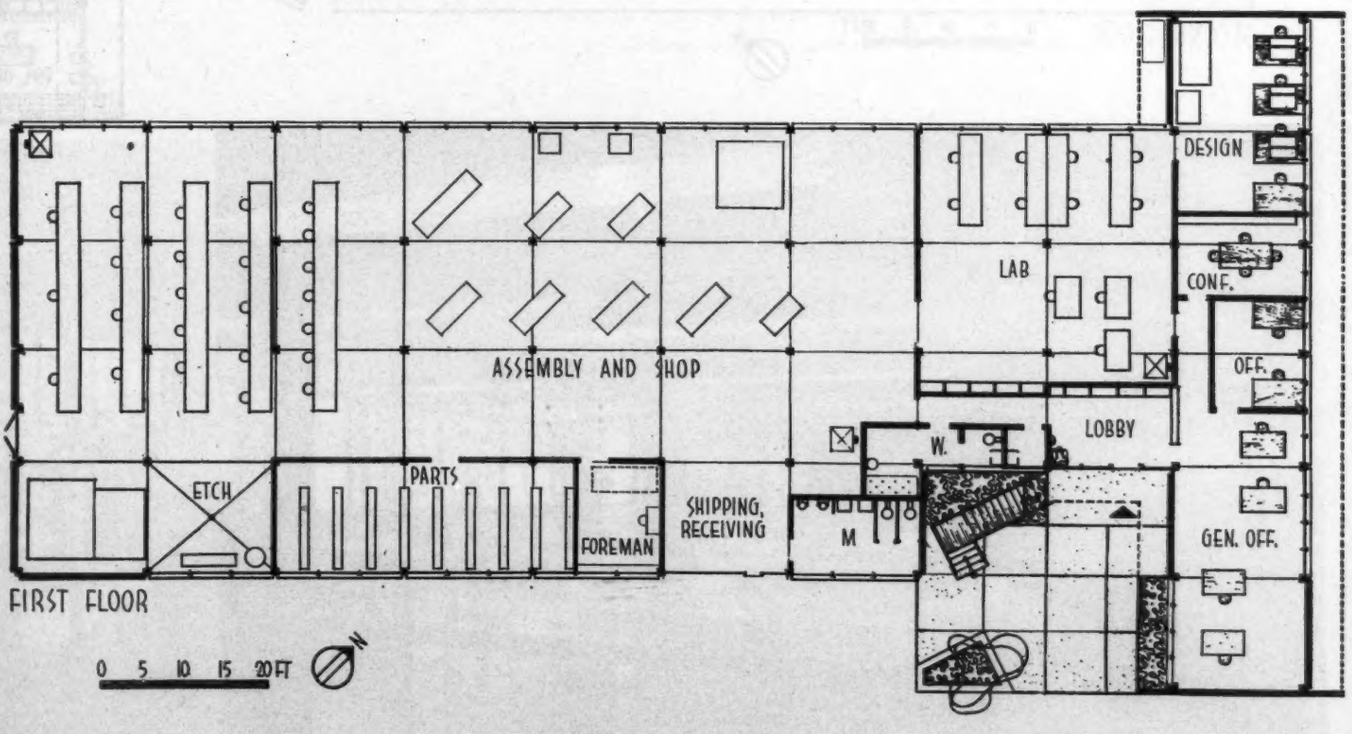


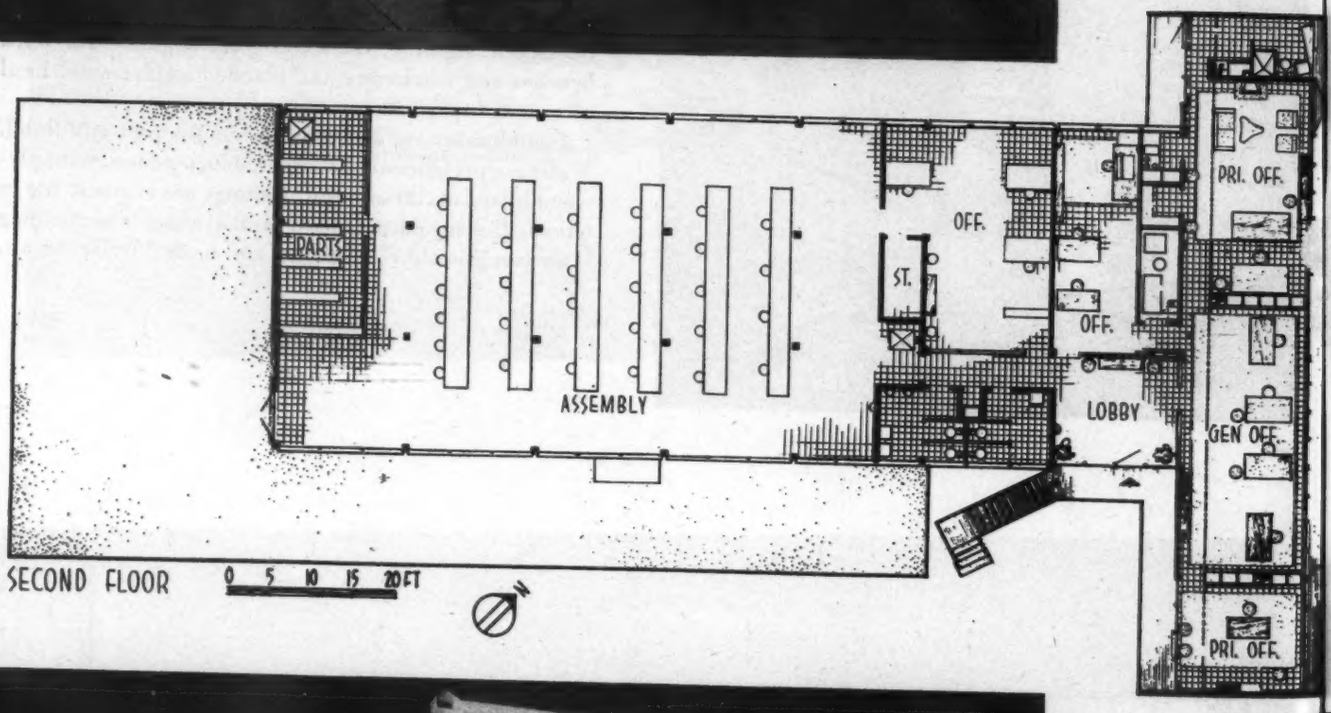
Left: northeast, or office wing. Opposite page: the long assembly area wing, with office wing at right in photo above, and at left below

and laboratory are grouped in the northeast wing, with the large shop and drafting room area opening out at a 90 deg angle directly from the laboratory and lobby. The manufacturing group occupies the long southwest wing of the second floor, and has its own offices adjacent to, but separate from the offices of the merchandising company which has the entire northeast wing on this floor (plan, page 128). Stairs lead directly from the entrance court to the lobby serving these two groups.

Since the southwest wing is long and narrow, the major working areas receive a maximum amount of natural light from both sides. This is supplemented by fluorescent lighting; the fixtures are aligned with work benches and machinery and planned to give good local as well as overall illumination.

Foundations are concrete, framing is post and lintel. Walls are prefabricated concrete-block panels, with plywood board on the interior. Ceilings are acoustic tile in offices, fiber insulation board in shop areas. The building is air conditioned throughout, and heated by warm air.

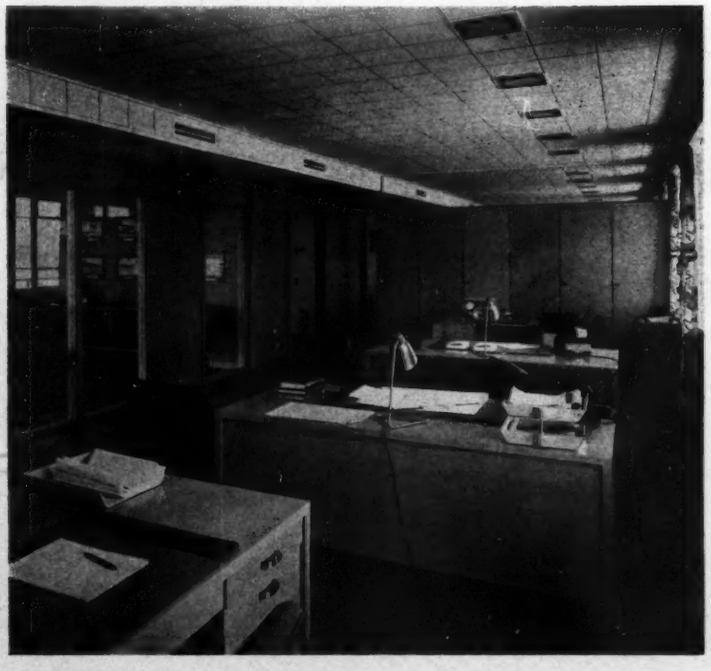




SECOND FLOOR 0 5 10 15 20 FT

Roger Sturtevant Photos

Merchandising firm's offices on the second floor were planned with visitors in mind. Carpeted and comfortably furnished, they follow the general color scheme used in rest of building, with light green walls and off-white ceilings. Large windows along entire east side of this wing let in ample daylight; glare is controlled on second floor by roof overhang, and on ground floor by full-length balcony



Stuart A. Weiner Photos

ARIZONA ARCHITECT DESIGNS

Residence of Mr. and Mrs. Edward L. Varney

Phoenix, Arizona

Edward L. Varney Associates

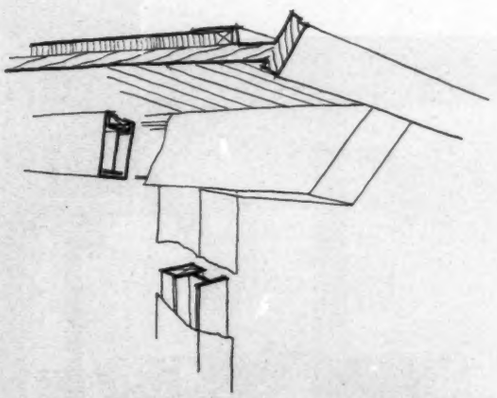
Architects and Engineers

WHEN THIS house was under construction a year ago, the architect-owner described it as an experiment in the application of light-steel welded rigid frames to residential use. "While this job is not strictly speaking a low-cost house," he said, "I have hopes of developing from it a structure suitable for low-cost mass housing. We have been using this type of structural system for several years in school buildings here in Arizona with some amazing cost results." (Steel was then available.)

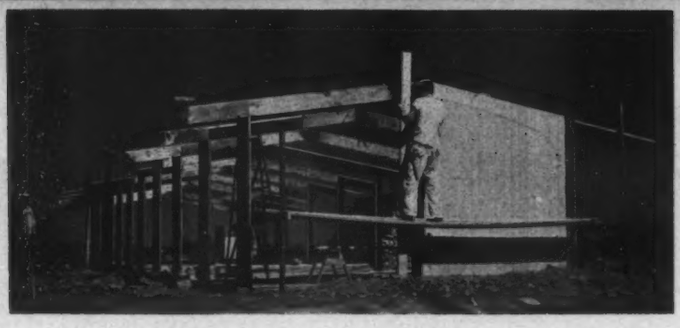
Despite the fact that the house was built in the last quarter of 1950, when building costs in Arizona, as elsewhere, were zooming upward, the per square foot cost turned out to be only $10.18, excluding refrigerated air conditioning, but including $1.00 per sq ft for open terraces — considerably under the average for a house of comparable quality.

The house occupies a 2½-acre desert site just outside Phoenix, high enough to overlook the city to the south, and low enough for dramatic views of the mountains to northeast and east. Planned for a family of five (including two boys and a girl, at present all under ten), the house provides three separate outdoor living areas. One, to the east between living room and children's wing, is designed for sheltered dining and recreation in winter, when the prevailing wind is from the southwest. The second, to the south of the living room, is planned for enjoyment of the cool summer breezes. And the third, to the north, is the children's play area, visible only from their own rooms and (for supervision) the kitchen and maid's room. Every room in the house overlooks either mountains or city. Floor to ceiling glass areas are extensive throughout the house, but all are shielded from direct sunlight after 8:30 A.M. during the hot summer months.

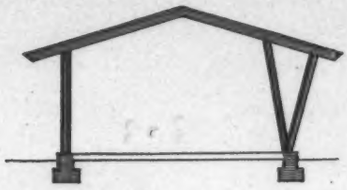
HIS OWN HOME

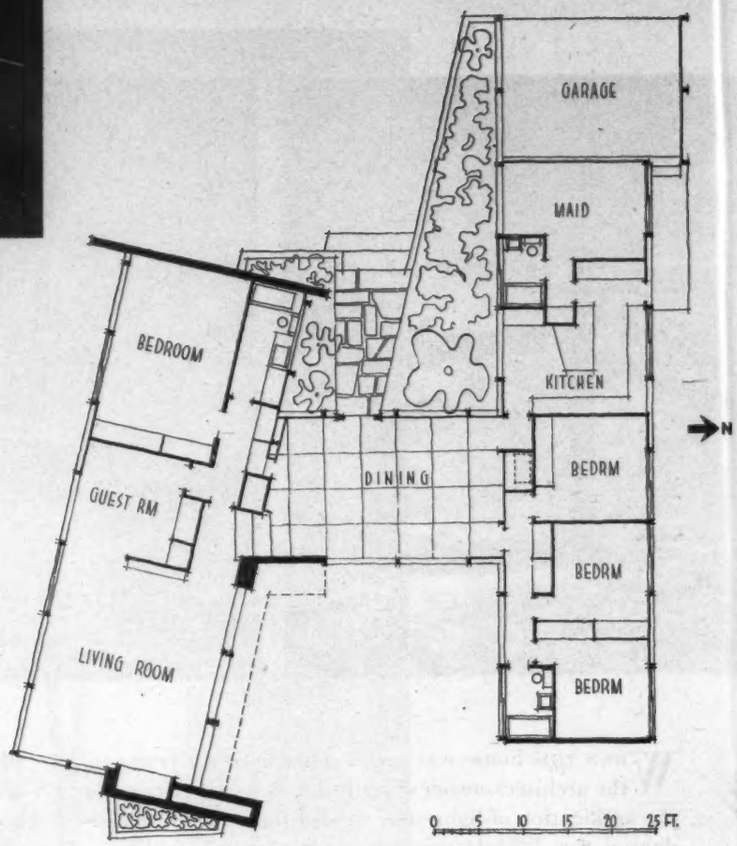


Foundations are poured concrete; floors are concrete on grade. Framing is steel, sheathed with 14-oz copper exposed on interior and exterior. Walls are 2- by 6-in. T & G hemlock, run horizontally and insulated with 2-in. glass fiber. Roof is 2 by 6 T & G, slate surfaced and coated with copper



Stuart A. Weiner Photos





Method of construction is based on strength of welded-steel frame which eliminates necessity of cross-bracing. Diagonal strengthening at north side of south wing permits esthetically pleasing variation at reasonable cost. Above: section through south wing. Right: dining and recreation terrace between wings. Below: the dining room; kitchen door left background

Stuart A. Weiner Photos

Interior walls are random-width ash except for ceramic tile and walnut plywood in bathrooms. Floors are brown or gray rubber cut in 2-ft squares. Ceilings throughout are 2- by 6-in. V-joint hemlock painted a flat gray-green. Copper beams and columns are left unfinished to acquire a dull patina. All stone is native, laid in random rubble

Rear of the house (above) faces the view; a broad paved terrace extends full length of living and dining room. From main entrance (opposite page) the visitor can see straight through the house, across entry and living room, to the terrace

HILLTOP RESIDENCE OF JAMES DINWIDDIE

LAFAYETTE, CALIFORNIA

John Ekin Dinwiddie, Architect
and Richard Maxwell

Robert Royston of
Eckbo, Royston & Williams, Landscape Architect

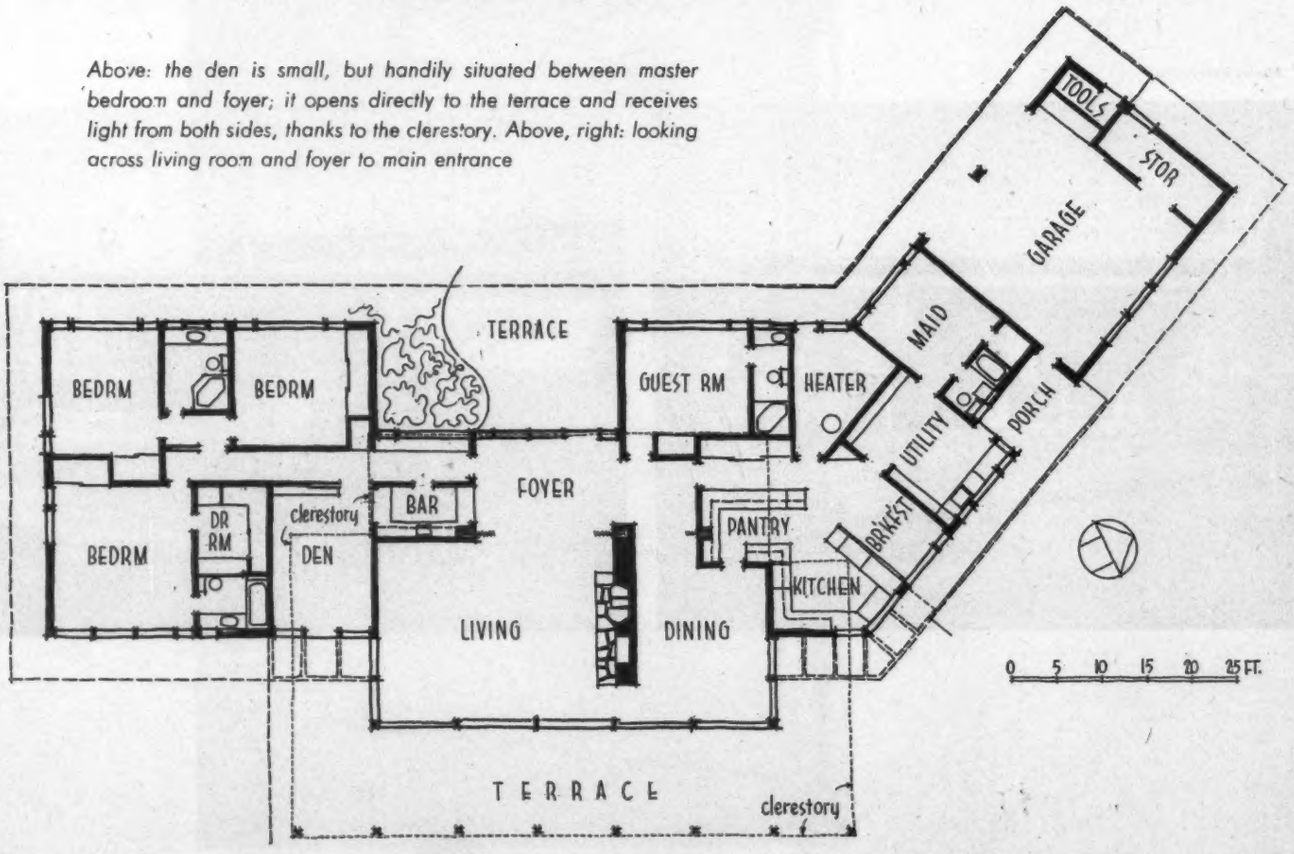
LIKE MANY HOUSES in California, this one, designed for the architect's brother, occupies a hilltop site and boasts a broad view. To take advantage of this it is long and narrow, with the living-dining areas, den and master bedroom all at the "back" of the house, facing the view. Walls on this side are almost wholly of glass.

At first glance the plan (next page) seems simple. Further study, however, shows why the architect considers this house one of his best jobs to date: there is a general feeling of openness, yet each area has been given maximum privacy. The family wing is a unit quite by itself, with master bedroom and den completely shut off from the entrance court and foyer. Living and dining areas flow into each other along the terrace side, but are firmly separated for most of their width by the fireplace wall. The guest room, with its own bath, is adjacent to the main entrance. And the entire service wing is placed at a 45 deg angle to the rest of the house.

Of wood frame construction, on a reinforced concrete foundation, the house has exterior walls of redwood and a tar and gravel roof. Interior walls are gypsum board, floors are oak.

Morley Baer Photos

Above: the den is small, but handily situated between master bedroom and foyer; it opens directly to the terrace and receives light from both sides, thanks to the clerestory. Above, right: looking across living room and foyer to main entrance



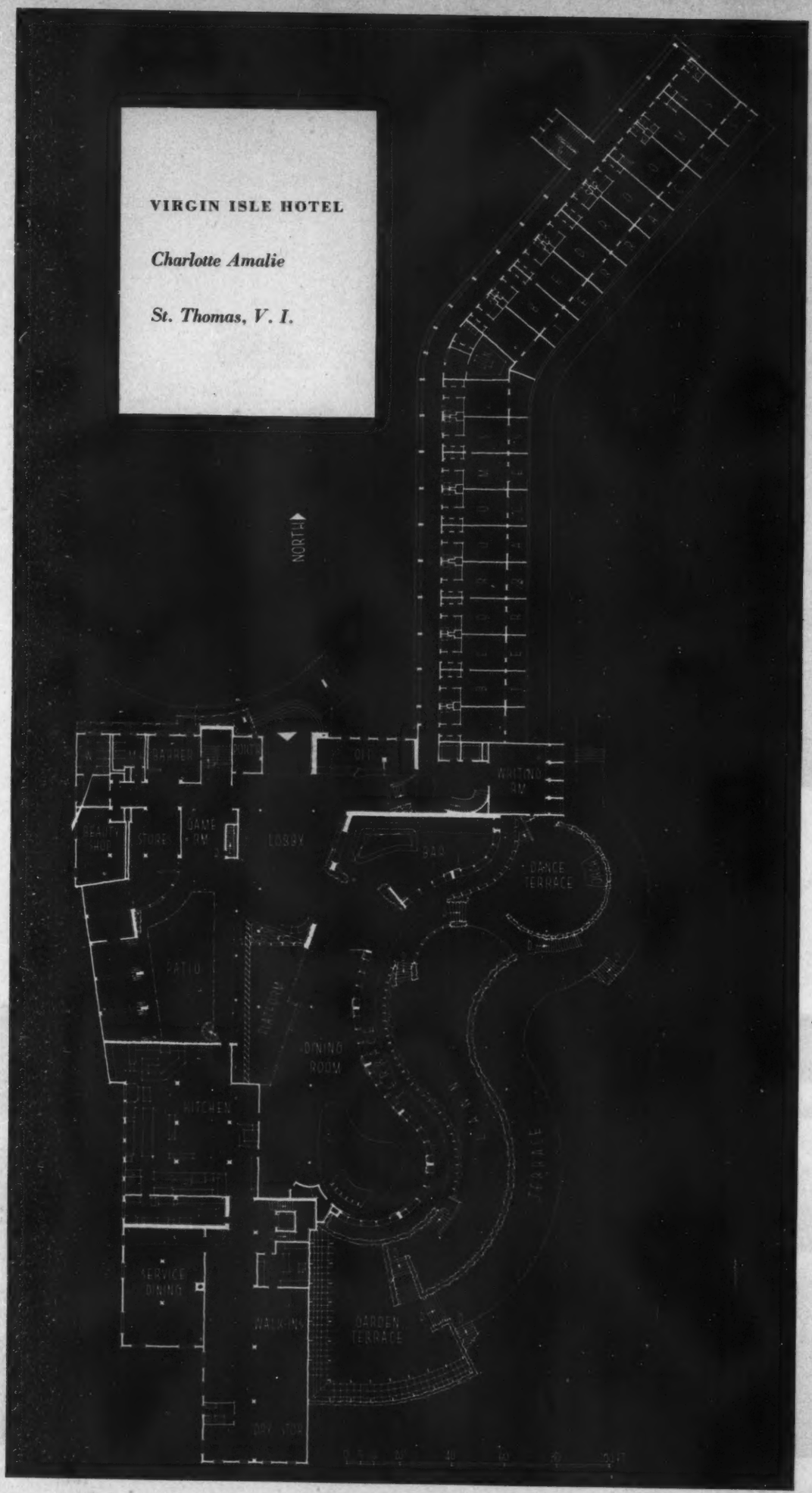
Above: living room looking toward dining room; fireplace wall effectively separates the two, but continuous glass wall and lack of doors give feeling of openness. Below, left: the dining room is wide open to the view. Below, right: kitchen, pantry and breakfast room are separated only by counters for an extremely compact, efficient unit; placement of kitchen at center of angle between wings gives maximum air, light and view

Morley Baer Photos

VIRGIN ISLE HOTEL

Charlotte Amalie

St. Thomas, V. I.



Hans Namuth Photo

Jac Lessman

Associate Designer

Virgin Islands Construction Co., Inc.

General Contractor

ONE of the main factors in the design of this new island hotel was the architect's conviction that a resort hotel must look like what it is — a place for relaxation and fun. Wide and curving terraces, a sweeping entrance canopy, continuous balconies and a kidney-shaped swimming pool combine to make the character of the building easily recognized from sea or air.

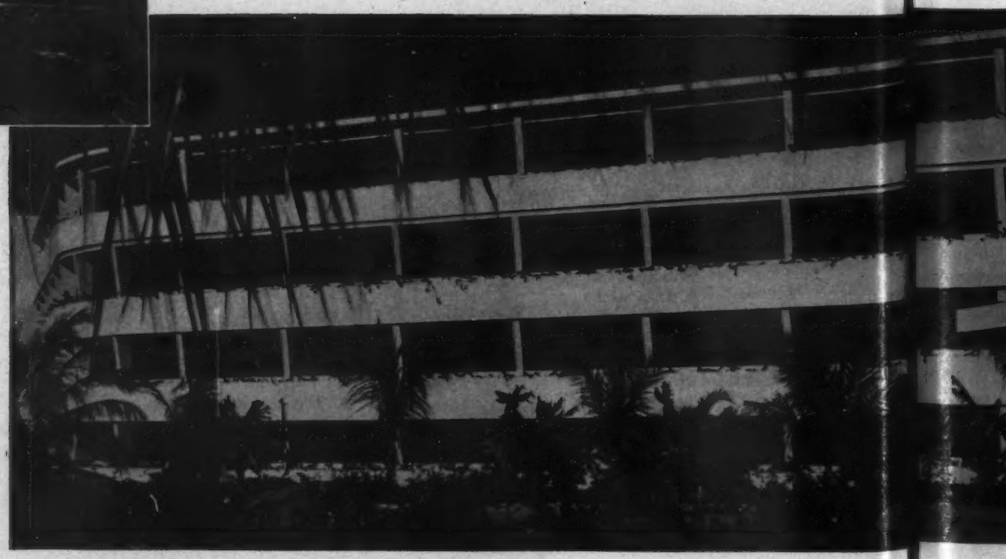
A second major design factor was the island's climate. The building is located on a spur running almost due north-south. Since the very welcome prevailing winds are roughly east-northeast, bedrooms are all on one side of a long, narrow wing following the line of the spur. Main public rooms also face in a general easterly direction.

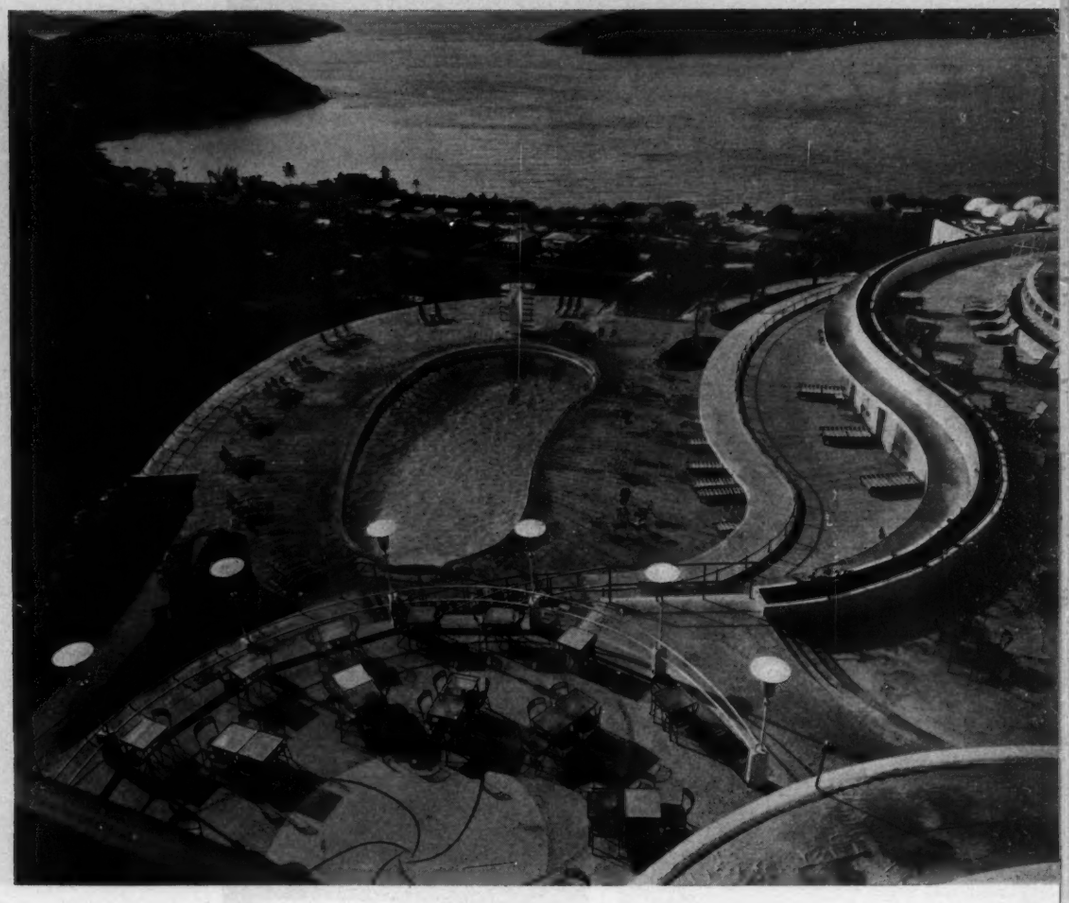
Original plans called for a modest 30-room structure, with the bedroom wing only three stories in height.

Subsequent expansion, after construction had started, brought the hotel up to its present size, and incidentally increased the general informality of the plan.

Construction is reinforced concrete and concrete frame with 8-in. block bearing walls. Interior partitions are cement block, floors are slab tile with terrazzo finish.

Hans Namuth Photos

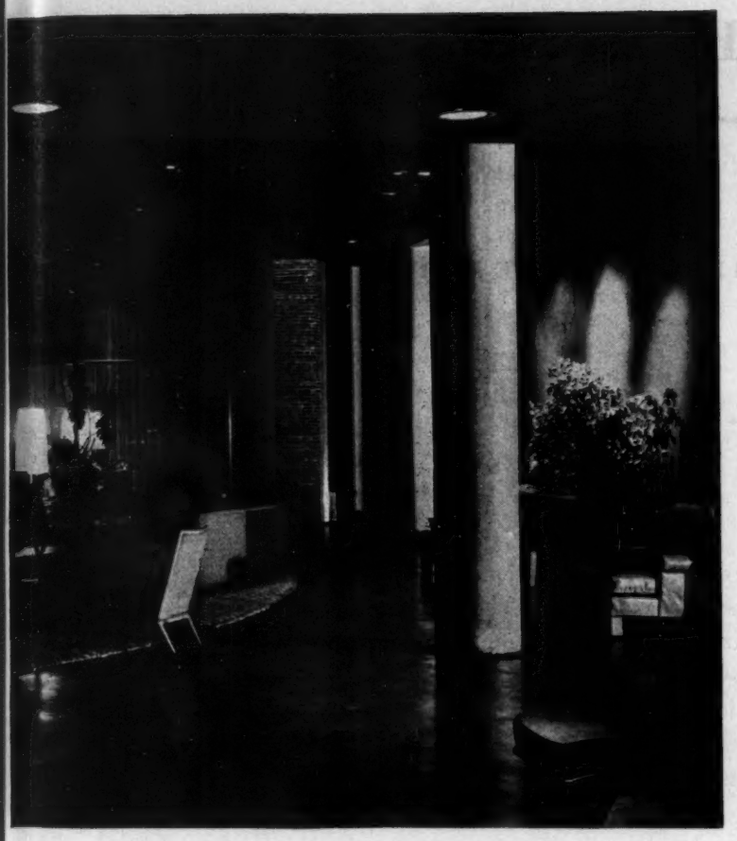


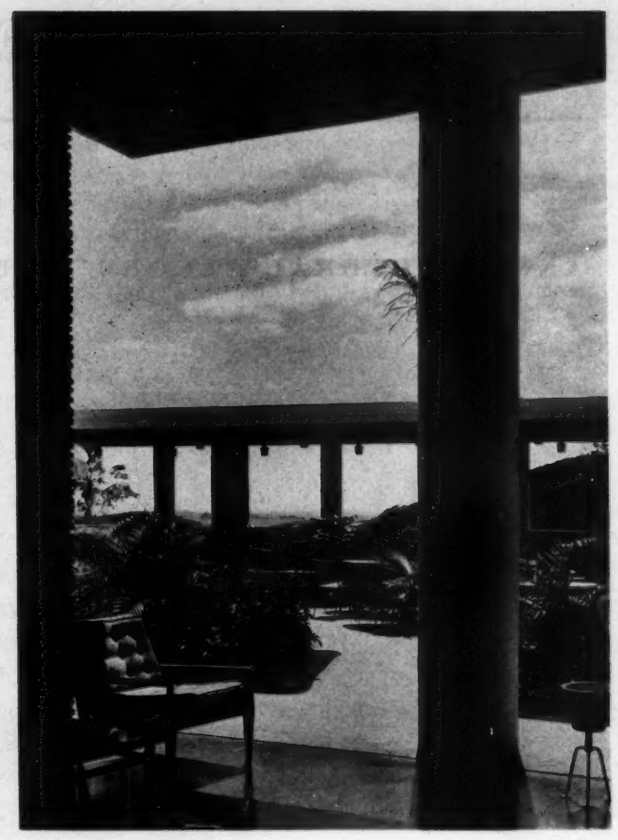


Swimming pool and terraces are the main features of the hotel. The two lower floors of the south wing are lined with cabanas on the pool side; above them (plan, page 138) are dining room, bar, dance terrace. Main entrance (below) is at north side of main wing, at third-floor level. Corridors in bedroom wing (bottom, opposite) are open

Hans Namuth Photos

Above: steps leading up to dance terrace past the glassed-in bar. Right: the main dining room. Trade winds are sufficiently strong at mid-day peak to require glassing-in of such areas despite the mild climate





Above, left: main lobby, like other public areas, is large and airy, with open terrace only a few feet away. Above, right: the garden terrace, on south side of main wing, is well sheltered from trade winds. Below: every bedroom has its own terrace overlooking the harbor, and its own short-wave radio set; several duplex two-room suites are provided at northernmost end of wing. Furnishings throughout are mahogany and native fabrics

SMALL OFFICE BUILDINGS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 178

SMALL OFFICE BUILDINGS is, of course, a loose classification. But it includes a great variety of quite typical assignments for architects. There is, for example, the "taxpayer," long familiar in every American town, but now showing up in new concepts and designs. There are new types of small rental buildings, not taxpayers, and no longer wedded to downtown locations. Also industrial offices, community centers, and so on, all different in purpose and use, but all geared to an age of mobility, an age, too, of fast improvements in concept, equipment, and esthetics.

A trend growing to important proportions is the outward movement of large company headquarters. Once it was considered necessary for a large home office to be in the heart of the city, but now many a large office is moved bodily to outlying areas, where life is not made quite so hectic by noise and traffic and smoke and congestion. An excellent example appears on page 160, a building done by the Wurster firm for the Insurance Company of North America.

Behind a great many of the changes in small office buildings is the automobile. Cars are, of course, the cause of decentralization, and the outward movement, in its turn, is the cause of many changes in building design. Economics change rapidly as property values go down, and buildings tend to go horizontal.

On the other hand, the automobile sometimes works in a contrary way. Many cities now insist that so many square feet of office space must entail parking space for so many cars. So the parking lot becomes bigger than the building. Or, the ground floor space, once considered the *raison d'etre* for the building, now is occupied by parked cars, and the building straddles the parking lot.

Once the auto has had its say, the architect may take over. He may then get busy providing the new comforts and satisfactions, the more positive assets of the times. And usually the success of the whole building venture will devolve upon the architect and the appeals he builds into the project, appeals for customers, tenants, clients or employees. The important thing is that the architect has more scope than ever before. Square foot costs will always be with him, but not necessarily the driving cost equations of high land values. Certainly, away from downtown, he will have more freedom in planning, in materials, in colors, in landscaping, in all matters of design.

GARAGE REMODELED AS OFFICE BUILDING

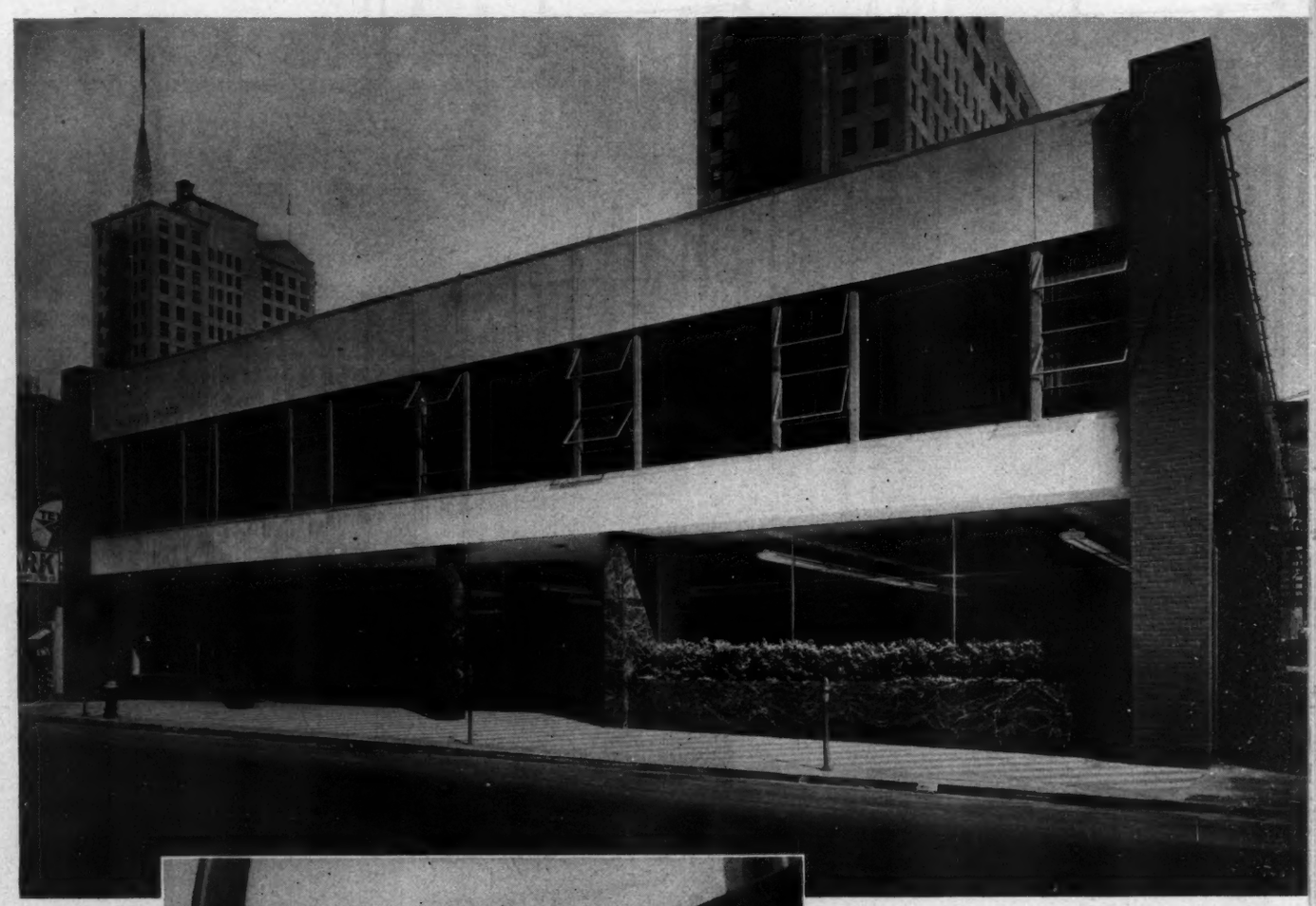
221 South Church Street Building, Charlotte, N. C.

A. G. O'Dell, Jr., and Associates, Architects and Engineers

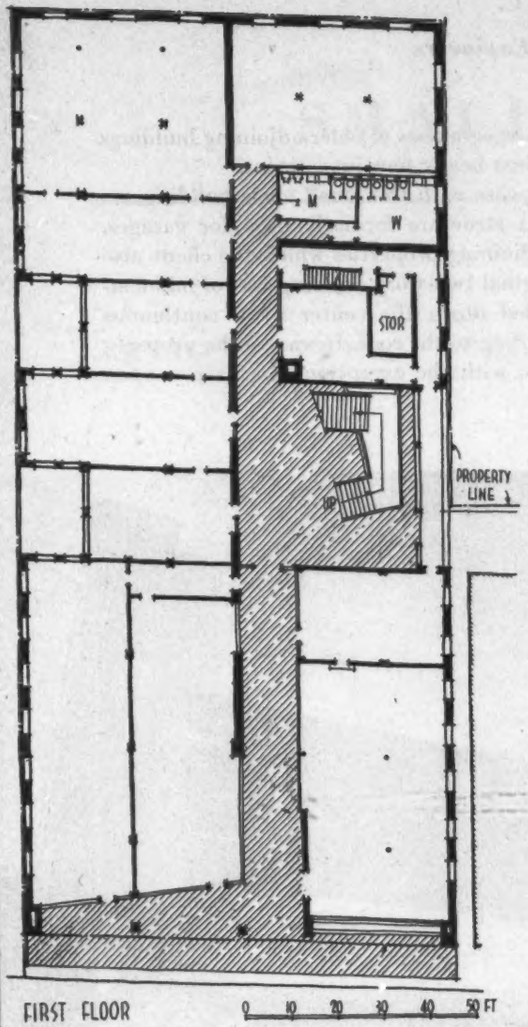
WHETHER to remodel or destroy and rebuild? This question is faced by many architects whose clients own speculative buildings which are structurally sound, but located in districts warranting higher rentals and a type of occupancy not possible with the original building. A new building can generally assure easy rental for a considerable period by special planning for the expected tenants. Structural and other difficulties encountered in remodeling are avoided. On the other hand, the shorter life expectancies of older adjoining buildings often warn against heavy new investment.

Such was the case with this small office building, remodeled from a structure formerly used for garages, and on a site adjoining properties which the client also owned. The original two-story building was of mill construction, divided down the center by a continuous brick wall extending to the roof. It was on the property line on all sides, with the exception of a narrow open

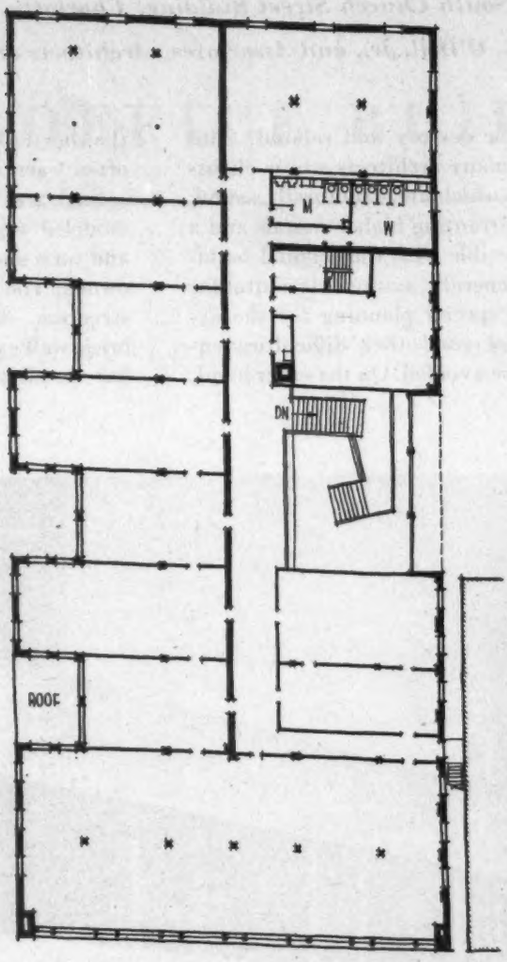
Joseph Molitor Photo



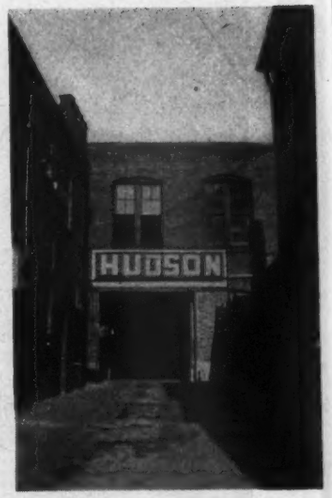
Drastic alterations made the old garage building entirely suitable for office use; result: 100 per cent occupancy and higher income

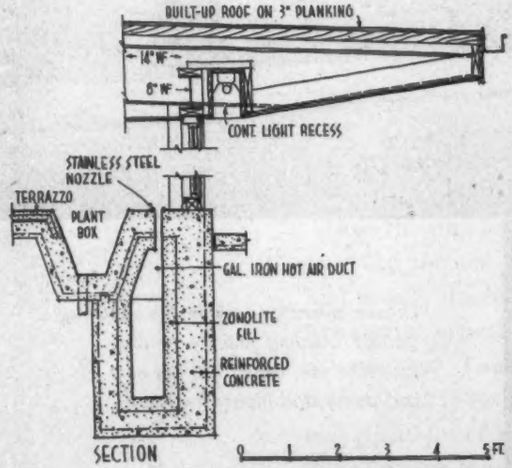


FIRST FLOOR 0 10 20 30 40 50 FT



SECOND FLOOR





SECTION

Joseph Molitor Photo

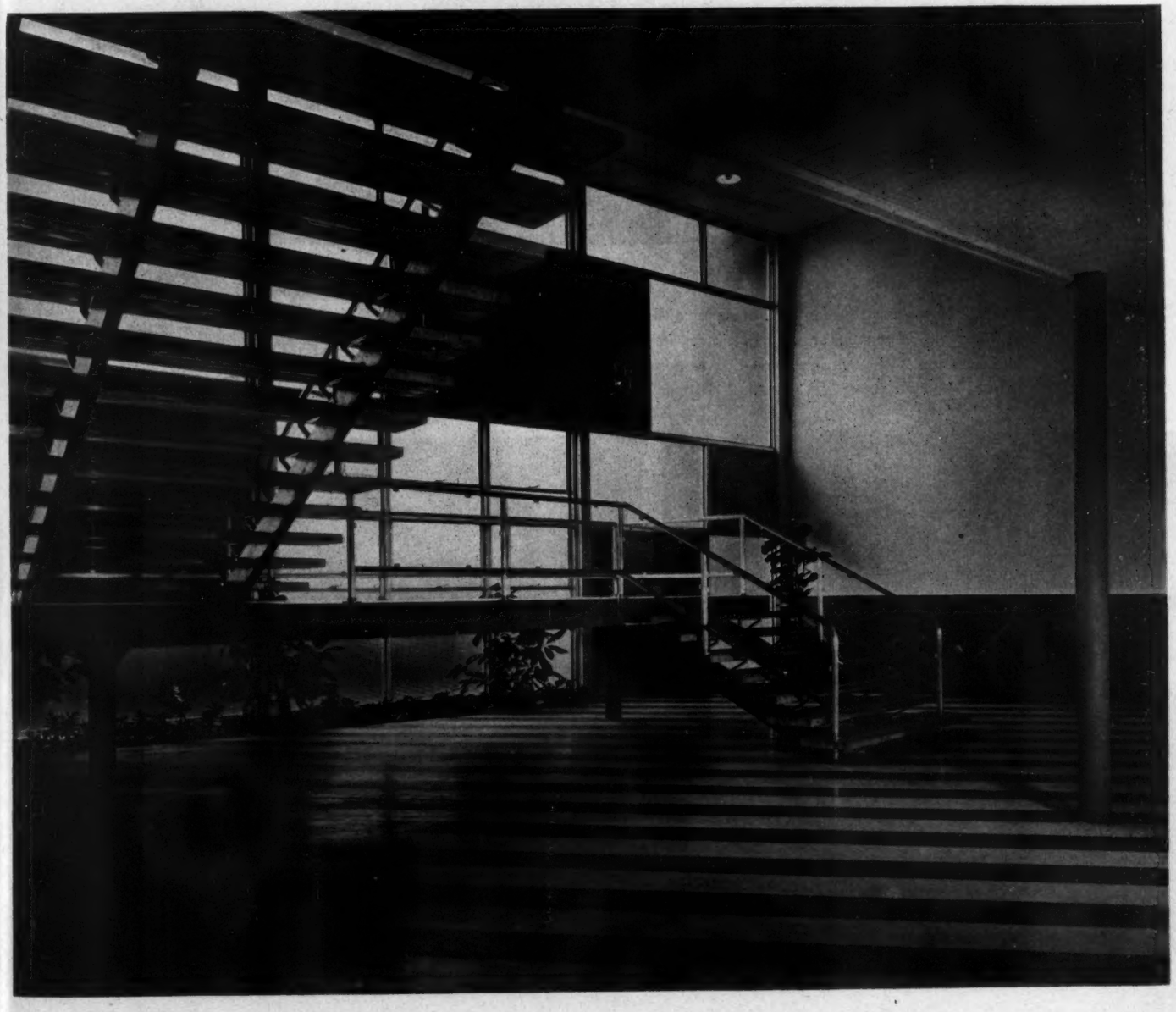
space and an alley along part of one side. Major problems included how to guarantee rental of second-floor offices without the expense of providing an elevator, and how to assure natural light and ventilation to all offices, particularly on the north side where an existing parking lot might be built upon in the future.

The final solution seeks to assure economic success of the building by making it as attractive and comfortable as possible for the tenants and their customers. Especial attention was given the entrance and stair lobby. The latter is two-stories high, and occupies an area larger than usual, considered by some as wasteful of rental space. It was the architect's opinion that if the stairs were not made attractive, the walk-up second floor office space would be difficult to rent. The building is now 100 per cent rented and the architect feels "that it is principally due to the interest of both the tenants and the public in the open stair lobby."

The exposure of the glass wall in this lobby is southwest, and various means were considered to protect it from excessive sunlight in the summer months. A roof overhang extended to the property line helps to shield this area. Exterior and interior venetian blinds were considered, but it was finally decided that a few solid panels would sufficiently cut down the sunlight and in addition provide interesting shadows and light spots on the interior of the lobby.

Sections of the dividing center wall were removed or penetrated in such a way that it is no longer obvious. All offices are air conditioned.

Joseph Molitor Photo



Joseph Molitor Photos

Extra space and extra design touches combine to make the stair lobby inviting and thus aid in renting upper-floor offices in converted garage building. Corridors and offices have sparkle of modern, clean design, good light

Joseph Molitor Photos

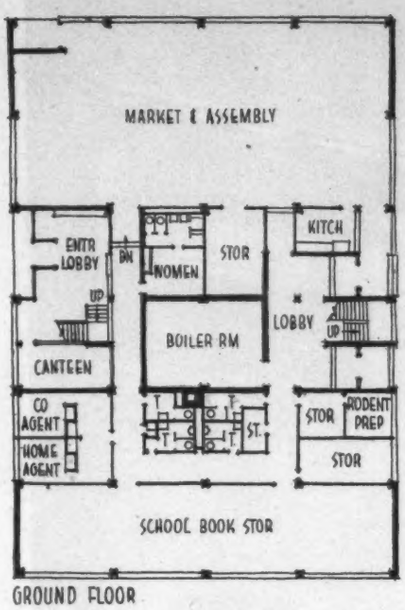
MULTI-PURPOSE BUILDING FOR RURAL COUNTY

Wake County Office Building, Raleigh, N. C.

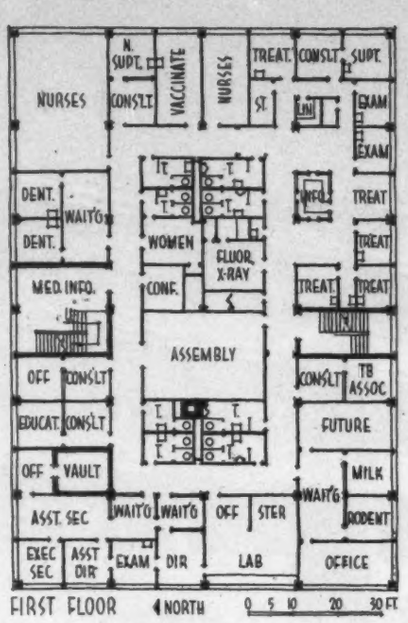
William Henley Dietrick, Architect

COMFORT and functional requirements are happily combined with economy of structure and maintenance in this simple, straightforward office building. Designed to house a part of the offices and activities of a widely diversified county program, the structure provides facilities for both the government agencies and for the public which they serve. The ground floor includes a large multi-use area for the farm women as a retail curb market for their products on Saturdays and as an assembly room for lectures and demonstrations on other days. The room was provided with ample means of access from the street, parking areas, and main entrances within the building. Due to its location in a relatively non-congested area, a good amount of off-street parking has been provided adjacent to the building.

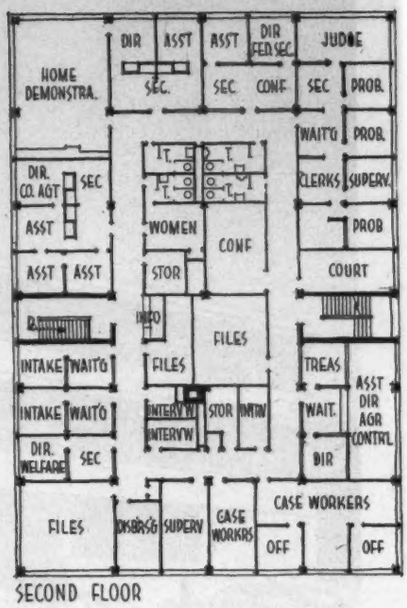
The first floor houses offices, labor and special equipment rooms for the county health program. Space was provided on the second floor for the County Welfare Department, the County Agricultural Program, Agri-



GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

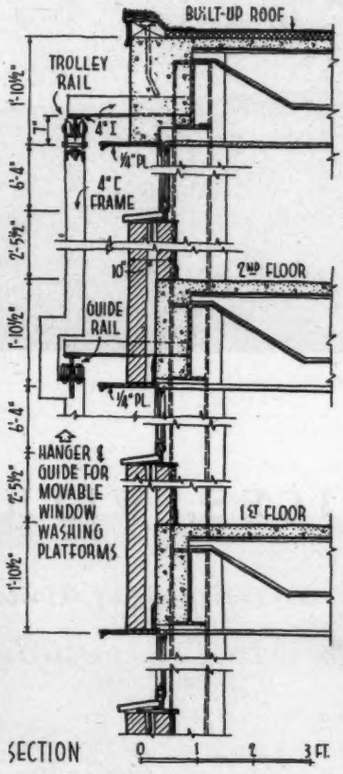
cultural and Home Demonstration agents, and offices and a small court room for the probation court.

Natural light and ventilation is provided on the interior by continuous window bands of heat resistant glass. Sun glare is tempered by interior venetian blinds.

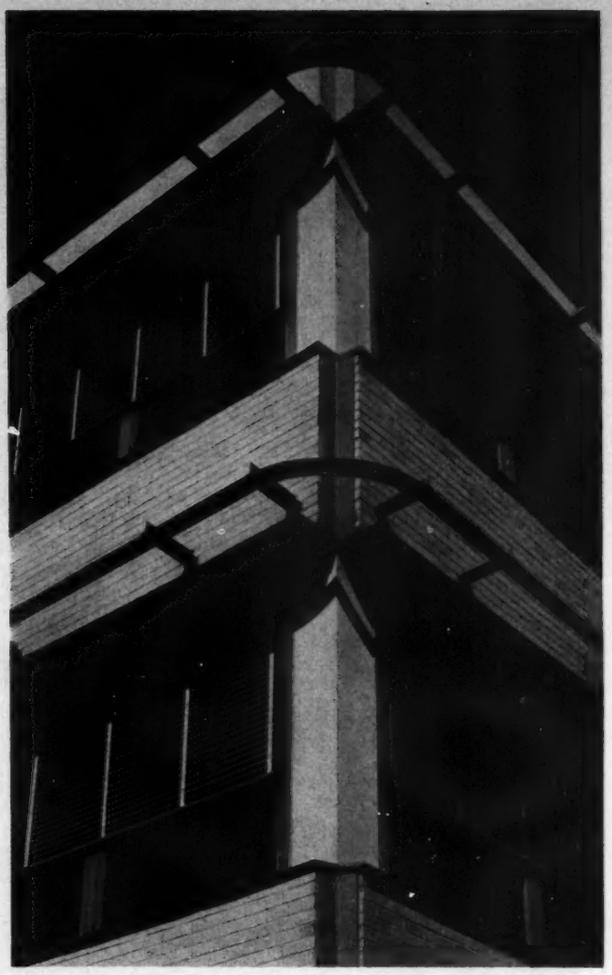
The steel frame structure has exterior walls of brick cavity construction, with interiors finished with glazed terra cotta and plaster. Brick spandrels are continuous on each facade, with corners finished by 5 by 5 in. steel angles to simplify brick laying. The roof is designed to reduce problems frequently met with parapet construction. Floors are finished in asphalt tile; stairs are exposed steel. All these materials were selected to simplify maintenance. The problem of window washing was met with a special window washing trolley which can be moved around the building on tracks above the window bands.

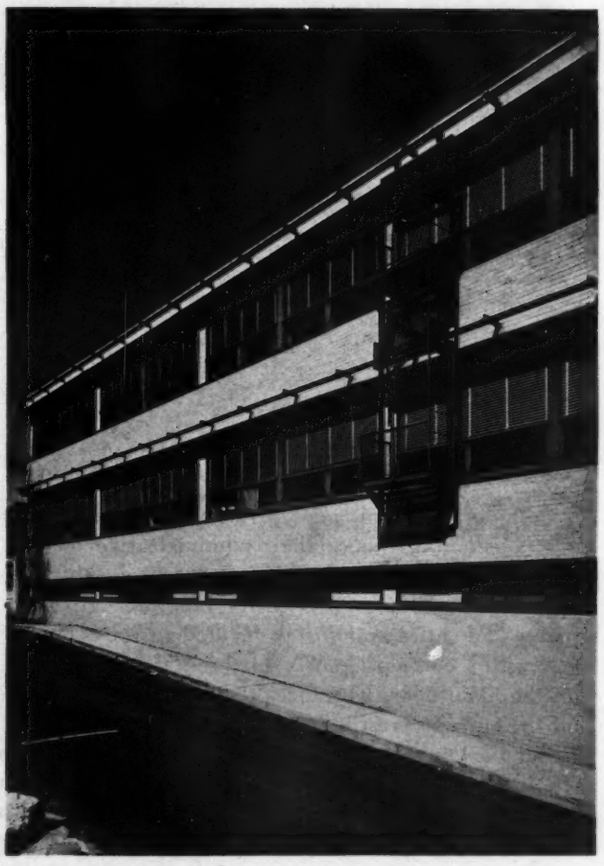
Interior partitions are concrete block, ceilings are plaster. Interior downspouts are wrought iron. All interior lighting is fluorescent.

Floor plans of this county office building show everything from a combination produce market and assembly room, whatever that is, to health offices and clinics, even a probate court. Must be a busy place on a Saturday in the fall. Note (right) use of a 5-in channel to simplify brick laying at the corner, also trolley for window washing



Joseph Molitor Photos





INDIVIDUALIZED OFFICES, WITH PARKING

Security Life and Trust Building, Winston-Salem, N. C.

Macklin and Stinson, Architects and Engineers

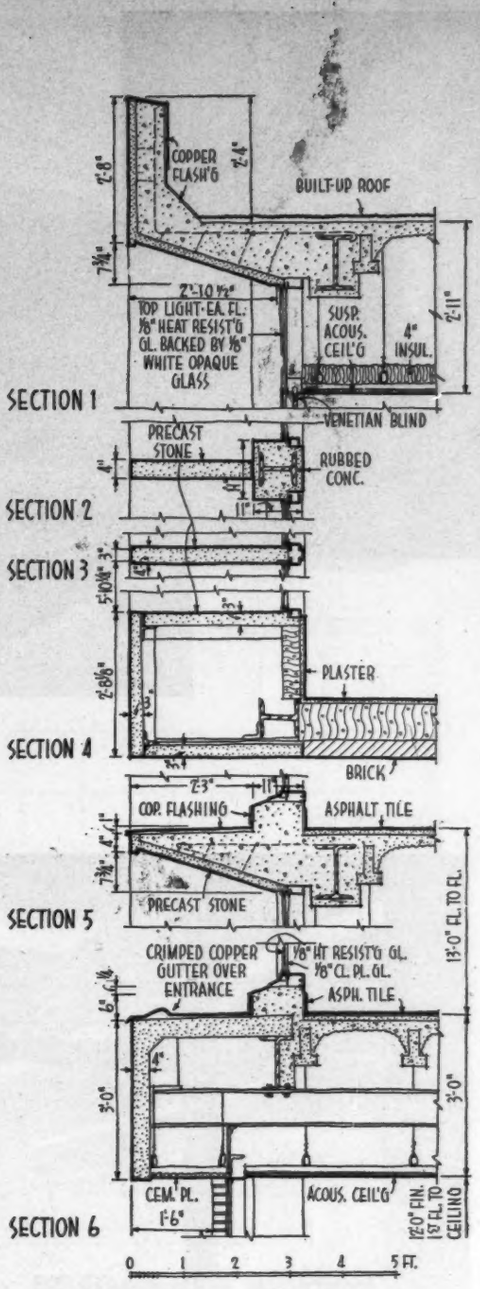
LARGER private companies are finding it more and more expedient to house their administrative offices in smaller, personally-owned buildings, as in this four-story office building for Security Life and Trust Company. The entire building is devoted to the company's use, with the exception of a small rental area for a bank on the main floor. Entrances to this area are provided off the entrance vestibule and the main lobby.

For the convenience of the personnel, about half the site has been devoted to parking — in a basement area and on the basement roof. The basement also serves as a convenient truck dock for the removal of the large quantities of waste paper which accumulate in the course of such a business.

The honeycomb facade, augmented with double glazing and venetian blinds, is designed to protect the air-conditioned interior from the glare and heat of the hot summer sun, and still permit ample daylight for the interior, and natural ventilation when desired.

The structure is steel frame, finished in brick and light cream stone. Interior walls are plastered, and painted or papered. Office partitions are of metal, some in wood veneers. Ceilings are of acoustical board. Lobby floor is terazzo; others, asphalt tile.

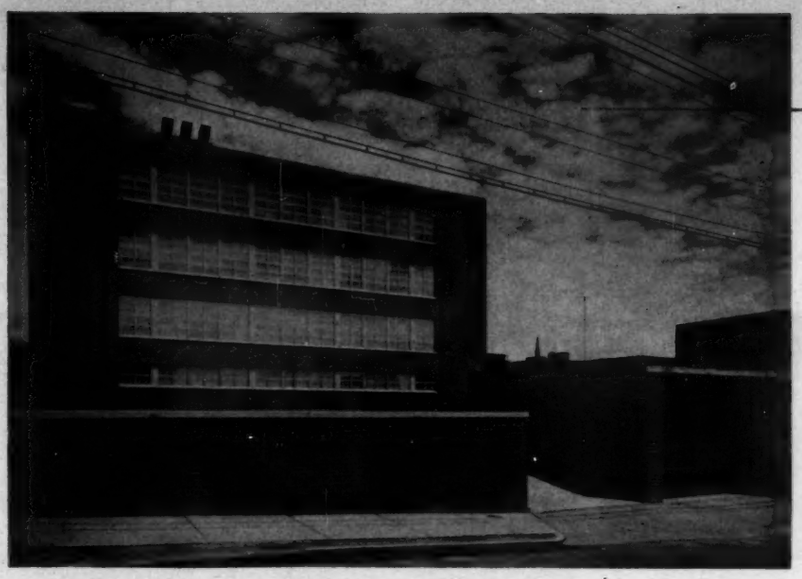
Joseph W. Molitor Photos

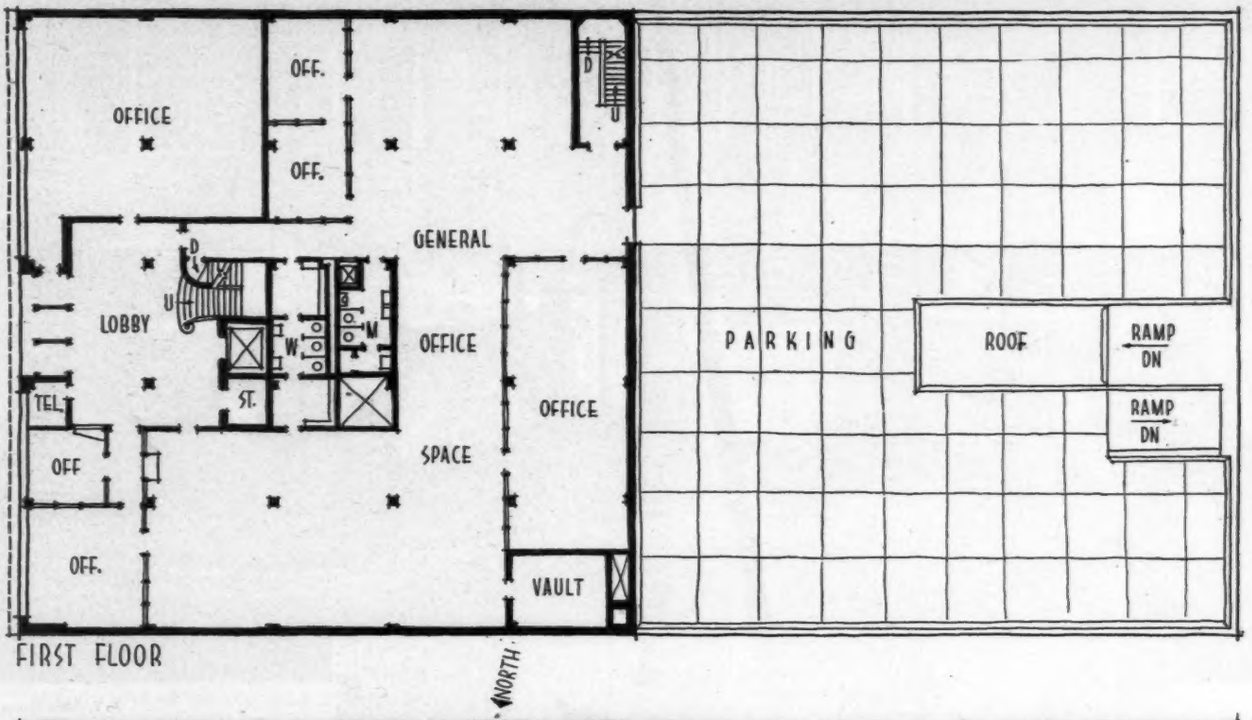


A honeycomb of vertical and horizontal fins of precast stone protect the building against worst of sun heat, without serious loss of daylight, and cut the cooling load

Joseph W. Molitor Photos

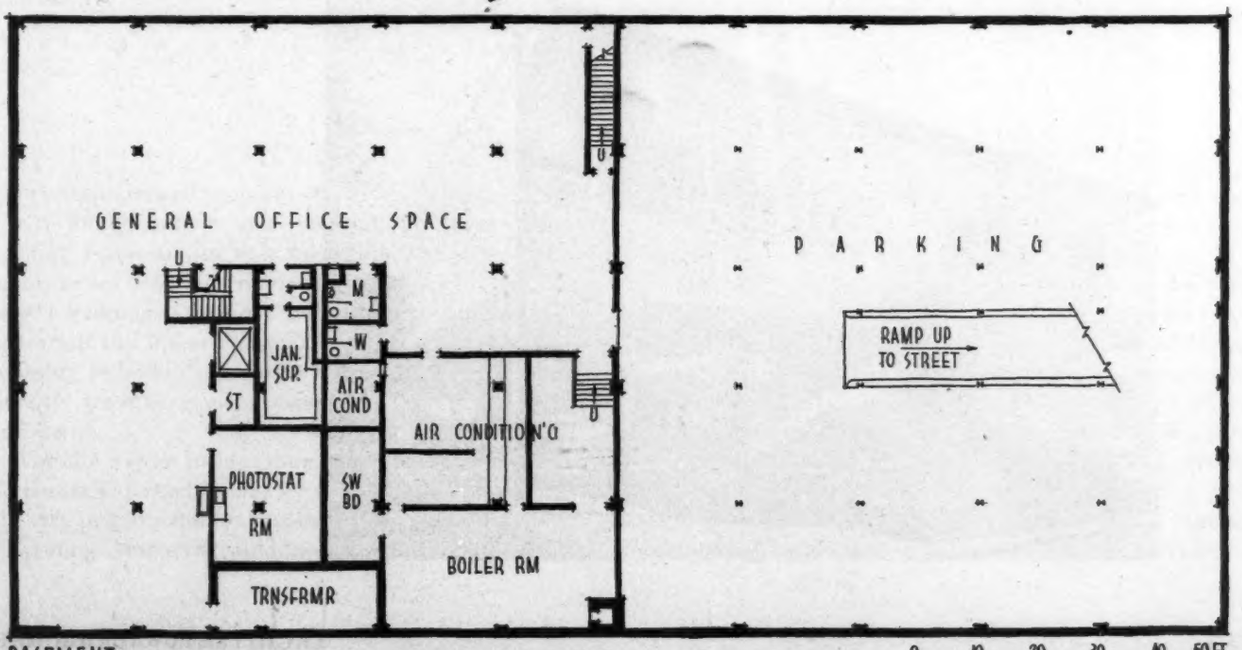
Square form is entirely suitable for offices of this insurance and banking firm, where large open offices are the typical space use. Square is economical, and central elevator and utility core keeps space from getting too "deep" from windows





FIRST FLOOR

NORTH



BASEMENT

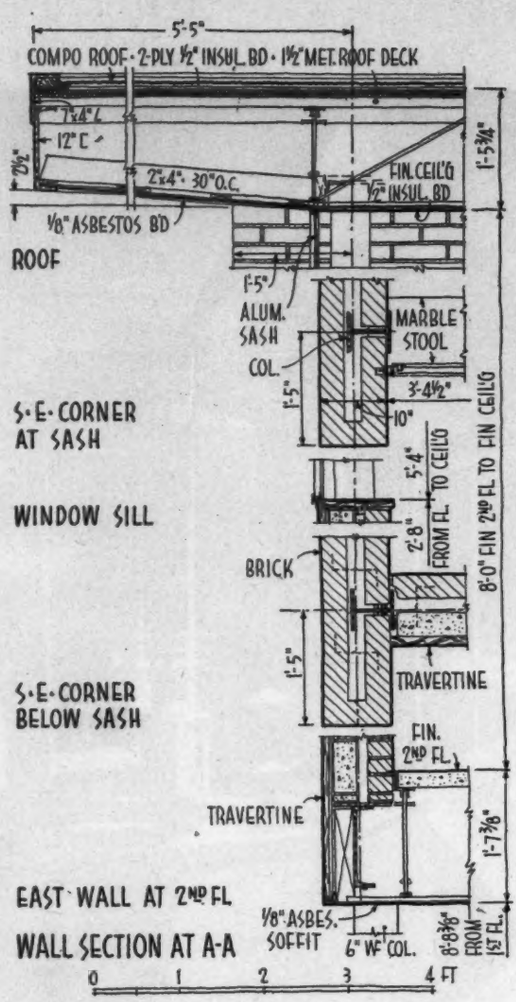
0 10 20 30 40 50 FT

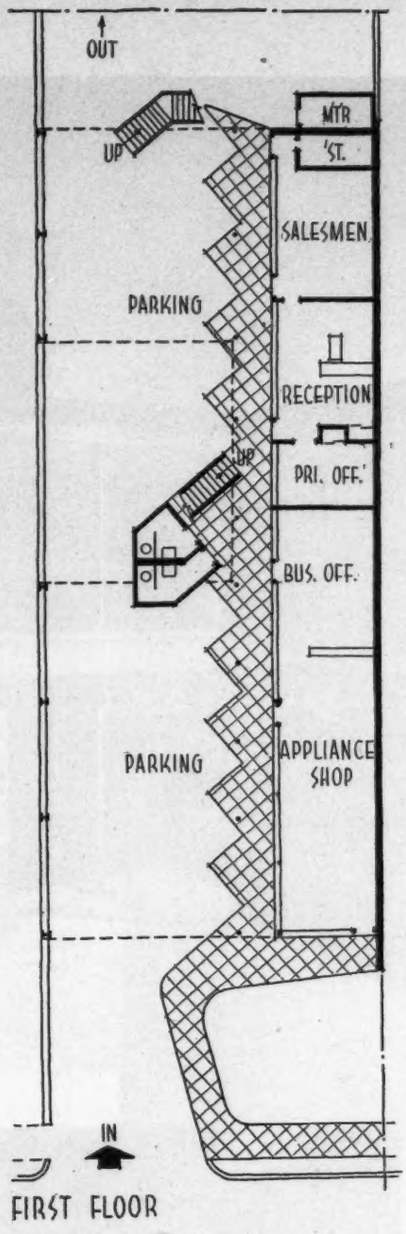
OFFICE BUILDING FOR AN INSIDE LOT

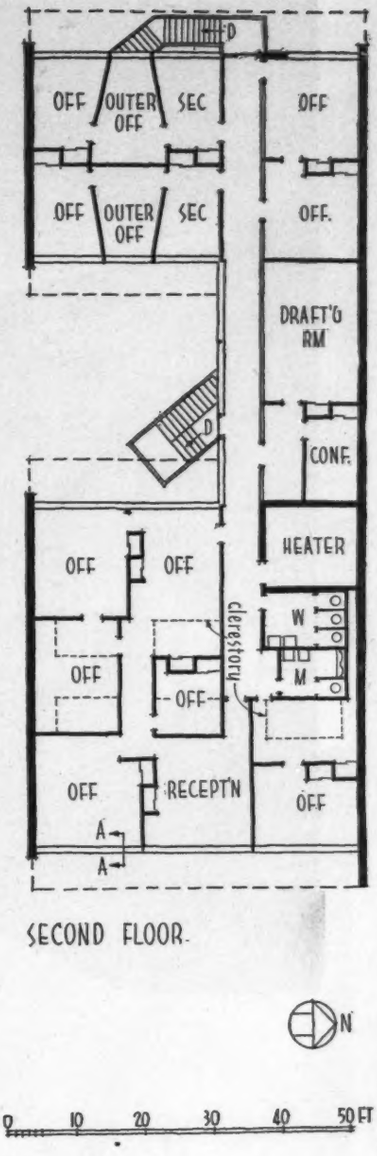
Herold Building, Oklahoma City, Oklahoma

Vahlberg, Palmer & Vahlberg, Architects

A. Y. Owen Photos







A narrow inside lot, with parking requirements, pushed the architects into drastic measures to develop rental income

A RATHER unusual program was given to the architects of this speculative office building. The owner had an existing business site that he wanted to put to more lucrative use. His only requests were the provision of as large a building as possible, with minimum maintenance, operation and upkeep costs. Decisions as to the type of building to be built, its exact size and cost, and subsequently its management, were left entirely up to the architects.

The site was an inside lot on a busy traffic artery with no parking allowed. It was located about a mile north of the city proper, close to hospitals and a shopping center. Adjoining property could not be purchased. Zoning ordinances required a set amount of parking area for each square foot of rentable space. Three stories was the height limit allowed.

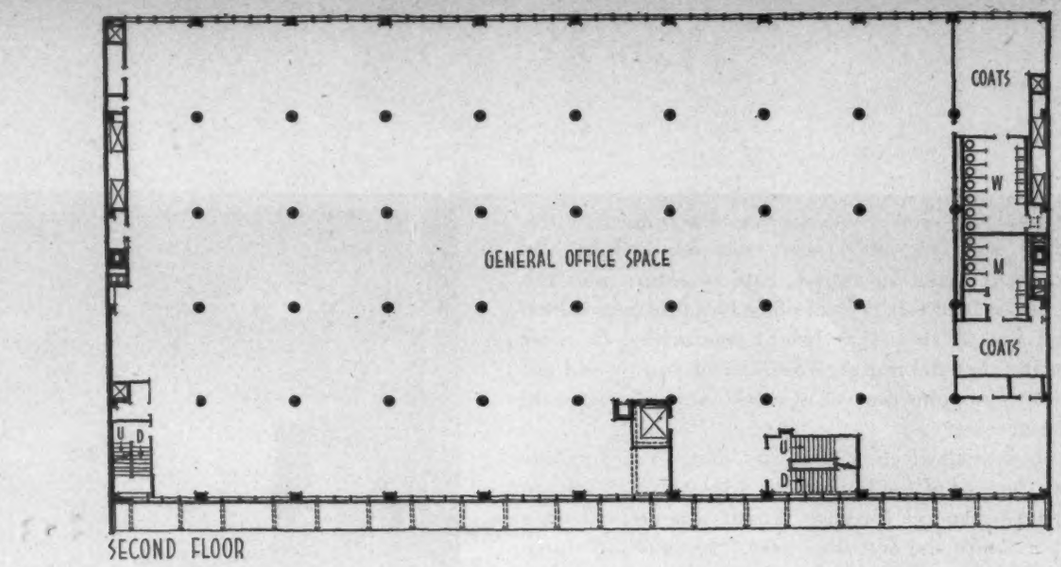
The program of requirements was drawn up by the architects after an analysis of office space requirements, property values and building costs, type of building needed in the area, leases and potential return on long term leases. It was finally decided to construct an office building to serve general businesses which must be close to the downtown area, but not necessarily in the heart of town. Provision for private automobiles therefore became a major factor. To assure maximum rental values, outside light and ventilation to all spaces was necessary.

A. Y. Owen Photos

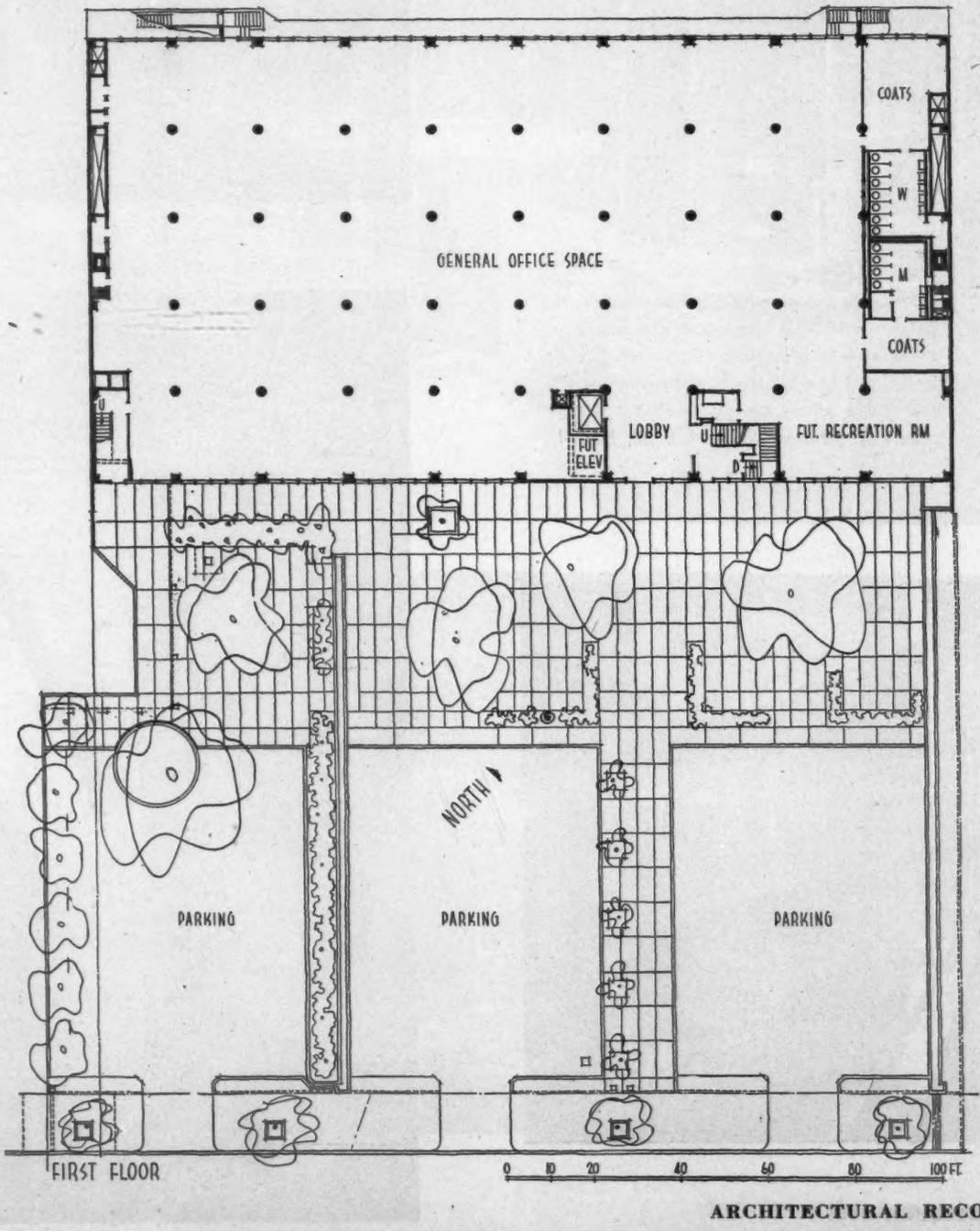
The final size of the building was determined by the fact that a paying investment was required by the owner. Thus taxes, insurance, rate of return and the rental per sq ft of this type of office building determined its final size. A two story height was settled on after computing that the rentals from a third floor would not pay for its costs plus the cost of an elevator, which would then be necessary.

To obviate the feeling that any of the office spaces were at the rear of the building, a drive-through feature with parking spaces for each tenant was created on a large portion of the first floor area. The building above was made U shaped for maximum air and light on the inside lot. All automobile entries are made from the street and exits out the alley.

Court walls use as much glass as possible, to get maximum light into interior spaces, since the narrow lot affords no "light protection," and party line walls can have no windows. A few inside offices are given extra light by means of clerestory windows (right, below)



SECOND FLOOR



FIRST FLOOR

Roger Sturtevant Photo

BIG BUSINESS MOVES TO THE COUNTRY

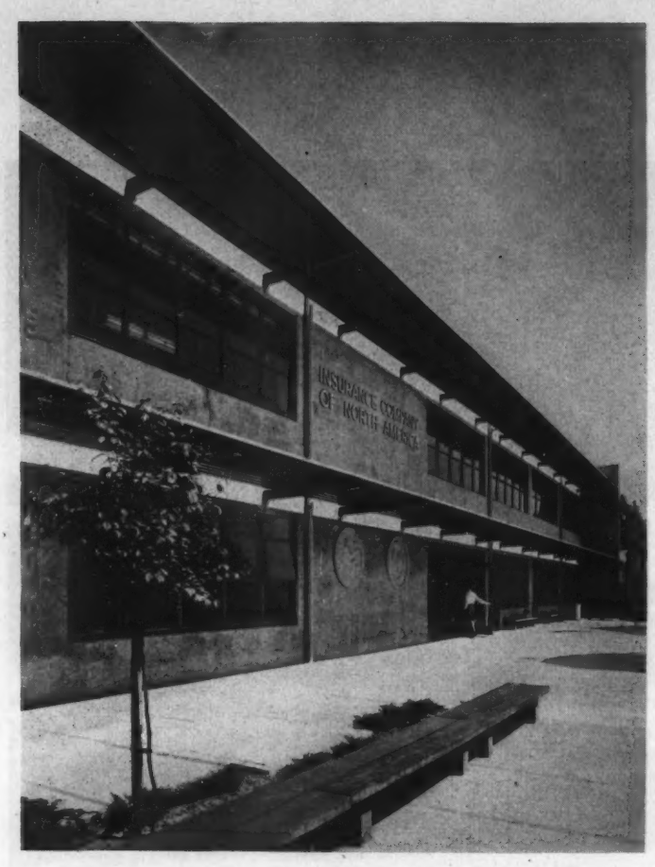
Pacific Headquarters for Insurance Company of North America, San Jose, Calif.

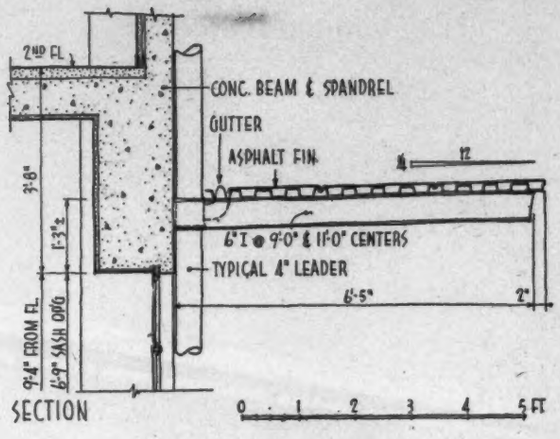
Wurster, Bernardi and Emmons, Architects

Thomas Church, Landscape Architect

IT HAS frequently been said that the city skyscraper will give way to just such headquarters buildings as this — individual company establishments in smaller towns, with open surroundings, landscaping, parking, and other means of making life more pleasant. This unusually attractive building shows how tempting such considerations can be. The insurance company moved its Pacific Coast headquarters from San Francisco to quiet San Jose, built a handsome but inexpensive building, to "get away from it all."

In plan, large open floor areas were required to permit simplicity of operation and continuity during work processing. The concrete structure with bell-capped columns was developed as the least expensive method of providing open, undivided space, carrying the floor loads and providing a fireproof building to house valuable records. It is designed for an additional floor to be added when needed. There was no effort to conceal the true functions of such things as air ducts on the ceiling, acoustic treatment placed directly on the ceiling slab, elimination of plaster surface on the columns. Attractive appearance of these elements was sought through the use of color: interior walls are gray green, columns darker green, and the lobby and stair hall a still darker green. Heating and ventilating ducts are painted red, as are the door frames ("boldly for decoration"). Sun shields over large window areas and air conditioning contribute to working comfort within the building.





Simple, inexpensive sunshades on the southeast facade give protection against sky glare and solar heat, even though with this orientation full protection is impossible

Interiors are simply and boldly done. Ducts and columns are frankly exposed and gaily painted. Columns are dark green, walls a lighter green, air conditioning ducts red

Roger Sturtevant Photos

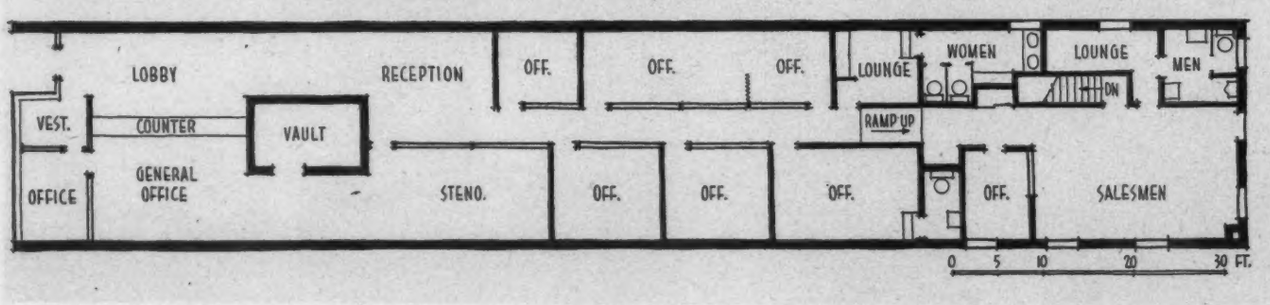
REMODELING SOLVES SPACE PROBLEM

Fidelity Investment Company Offices
Wichita, Kansas

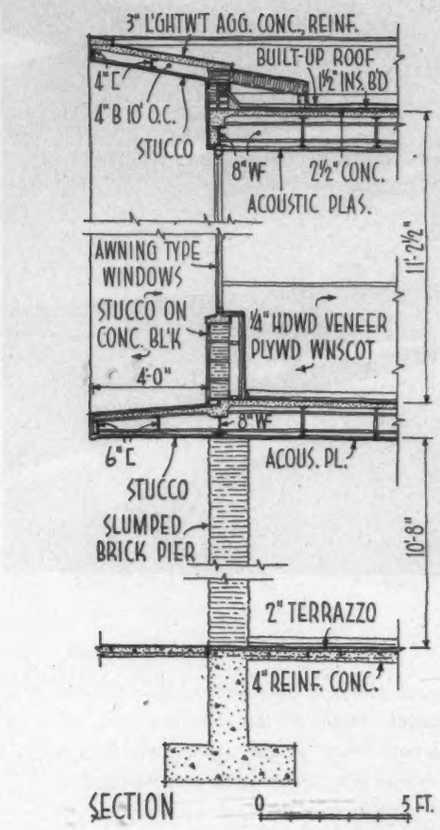
Ramey, Himes & Buchner, Architects

LIKE many another concern faced with shortage of available office space, as well as building restrictions and high costs, Fidelity Investment Company has secured pleasant, ample quarters through the purchase and remodeling of an old downtown building. The first phase of the project, the ground level, is shown on these pages. Future plans call for remodeling of street elevation and second floor, with addition of stairs.

The architects have succeeded in creating a good sense of space within the confines of the long narrow plan. Generally, divisions of work areas are suggested, rather than completely separated. The exposed brick vault, dropped ceilings, glazed half-partitions, plain surfaces and flush lighting fixtures all serve this end. Clean lines and color also play an important part. To reduce costs, original heating and plumbing locations were not changed, and all materials were selected for ease of maintenance and durability.



Frankly expressed brick vault serves to define divisions in general office area (left and above). Walls of the room are in quiet, cheerful colors — gray green, lemon yellow, mahogany. Offices off corridor (below) are in blue gray, green gray and mahogany. Floors are gray rubber tile, brown asphalt tile, tan carpeting



Hedrich-Blessing Photo

Dominant feature of this combination store and law office building is cantilevered block of second story (photo and detail above). Angled store fronts permit easy visibility from street. Interiors are simple, easy to maintain. Below: reception room of owners' suite

Elliot Bond Photo

NEW VERSION OF AN OLD IDEA

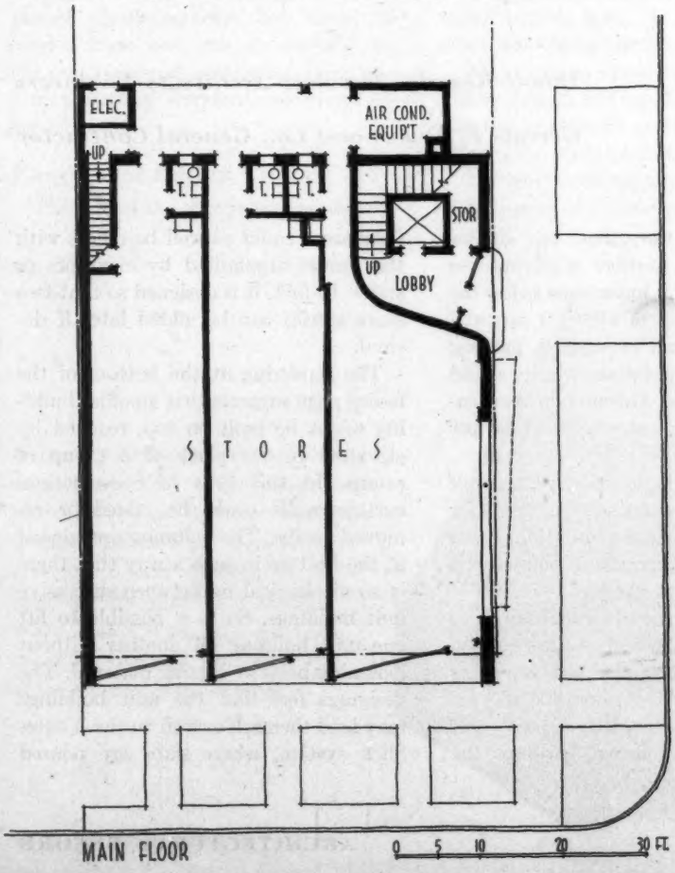
Charles J. Schuh Office Building

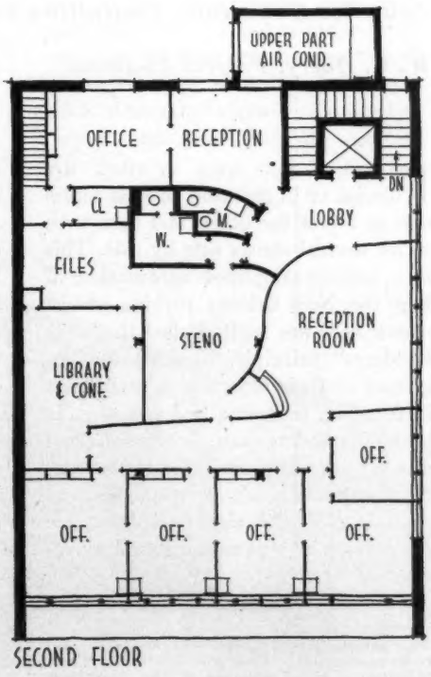
St. Petersburg, Florida

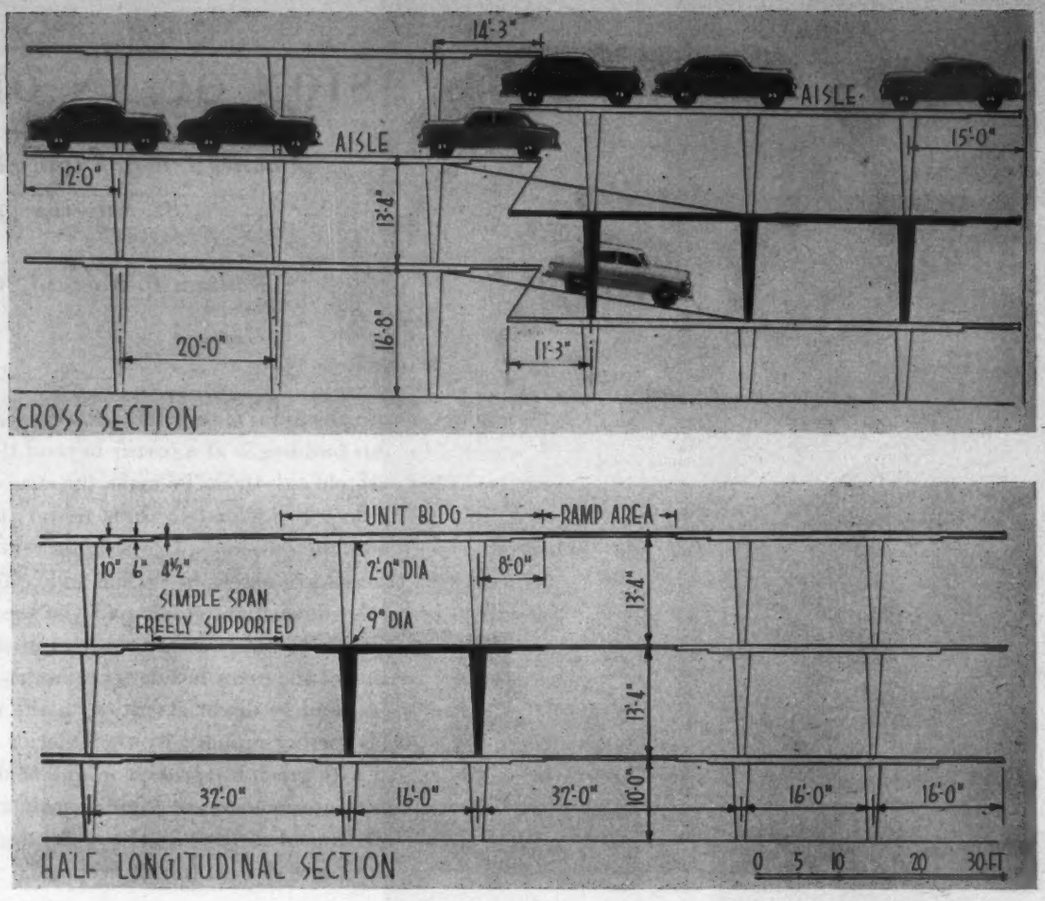
William B. Harvard, Architect

IN CONTRAST with the usual main street location for law offices, the site selected for this building is at a corner beyond the worst congestion, and is shaded with old oak trees. To make the structure a sound investment, the lower floor is devoted to three rental areas for stores. The second level houses the owners' law firm and a rental suite for another attorney. All offices have access to the file and conference rooms.

Entrances to the downstairs stores and the second floor lobby are planned for maximum visibility from the street intersection. The cantilevered projections of the main facade serve both as sun shield for the large glazed areas, and to direct attention to the second floor offices. Glare reflection is further reduced by the exterior finishes — concrete block and stucco with green integral color, and shadow brick. The efficient, comfortable interiors are air conditioned, and have acoustical plaster ceilings, flush cold cathode and strip lighting, terrazzo floors on bar joists. The structure is steel frame, fireproof.







Indicated by blacked-in sections, the unit building is independent structurally from surrounding units. Columns are hinged at the bottom, allowing them to be tapered. Overlapped cantilevers make space for one more car

PARKING GARAGE: SERIES OF UNIT BUILDINGS

Laurence G. Farrant, Consulting Engineer

W. C. Harry, Project Engineer

Diboll-Kessels, Associate Architects-Engineers

Gervais F. Favrot and Co., General Contractor

IMAGINE if you were to stack toy blocks, or in this case several tables one on top of the other, and then were to set several stacks side by side. This is a greatly simplified explanation of how the New Orleans parking garage shown here was built. Called the "unit buildings" principle, it aided the engineers in their objective of a balance in function, economy, and esthetics. It is an outstanding example of what clean design can result from flat slab construction without bulky drop panels and capitals. The flat slab provides space for parking as well as horizontal movement of cars.

There are 30 separate structures each independent of the other, but similar in proportion. A number of advantages accrue, one of the main ones being the extremely low cost of $400 per car, well below the national average. A parking garage is considered economically sound by the American Automobile Association if it costs no more than $1350 per car.

The economy is due partly to use of open decks, eliminating the need for walls and mechanical ventilation. Even so, the cost is favorable in comparison to other open deck garages.

The principle need not be limited to parking garages alone since, functionally, most buildings consist of working areas plus some access from one floor to another. Whereas the garage consists of parking areas approached by ramps, the floor areas could as well be offices with the ramps supplanted by elevators or stairs. In fact, it is designed so that two more stories can be added later if desired.

The rendering at the bottom of the facing page suggests that an office building might be built on top, reached by elevators in the place of a group of ramps. In this type of construction, curtain walls could be added or removed easily. The columns are hinged at the bottom in such a way that there is no mechanical tie between successive unit buildings. So it is possible to lift one unit building off another without loosening bolts or cutting material. The designers feel that the unit buildings may lend themselves well to the Youtz-Slick system, where slabs are poured

This article is based partly on the engineers' technical paper, "Unit Buildings Cut Construction Costs," Journal of the American Concrete Inst., V 22, No. 9, May, 1951.

on the ground and hoisted up the columns by means of hydraulic jacks. (ARCHITECTURAL RECORD, Jan., 1949.)

Construction economy was possible because concrete did not have to be placed simultaneously, but could be carried from one unit to another. As the unit buildings are similar, there was a maximum of standardization and re-use of forms.

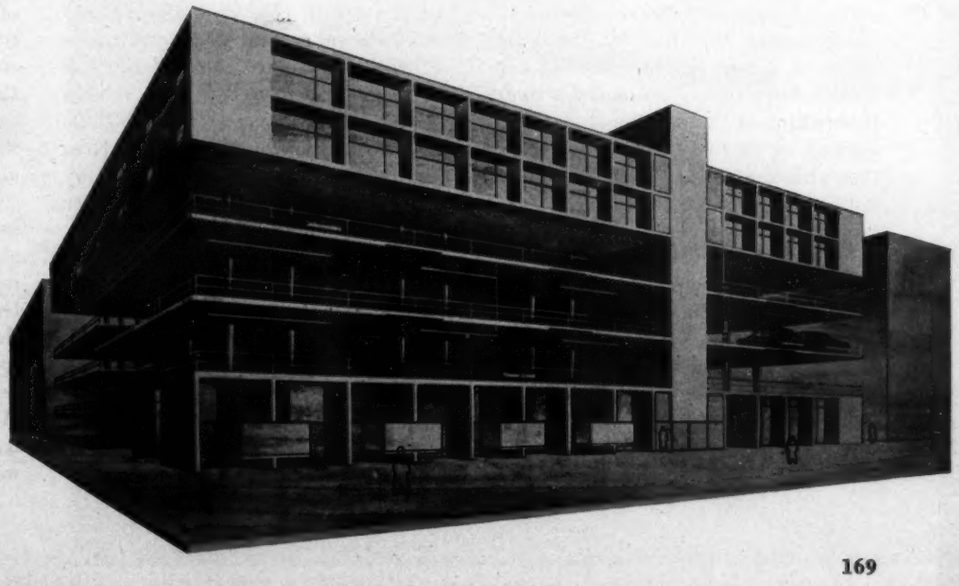
Functional Design

The size of the garage was predicated on the rule that no customer should have to wait more than three minutes for the delivery of any automobile. Thus the garage was extended as far as the property line would permit and built three stories high. A man lift takes attendants from one floor to the other.

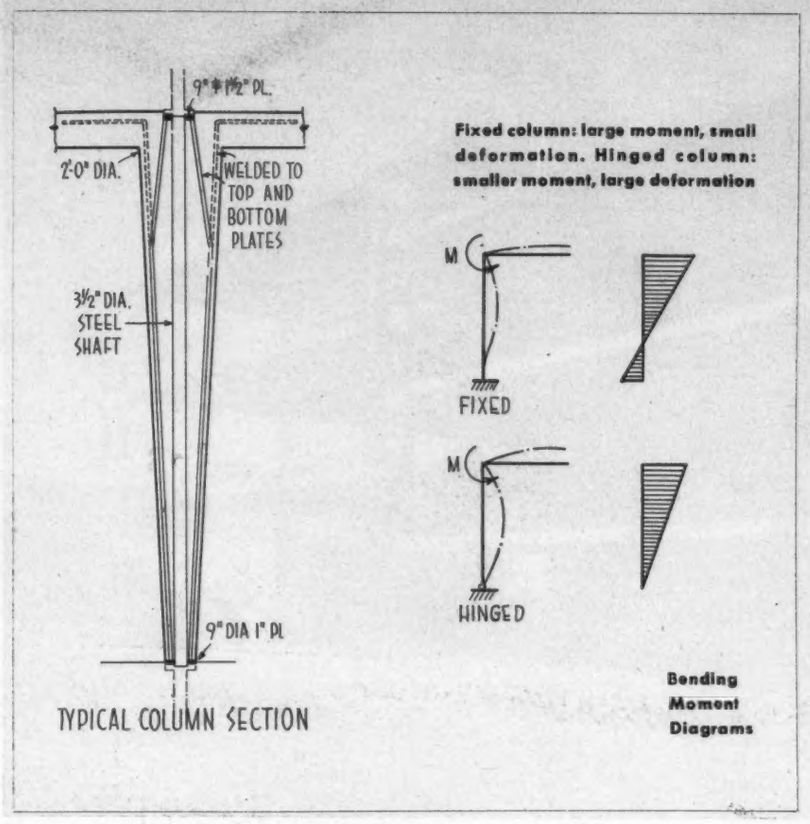
The average space of structure per automobile is 200 sq ft. The designers say this represents quite a bit of space saved over other parking facilities.

The unit building principle permitted overlapping of cantilevers at the center of the structure for the most efficient use of space — one extra row of cars can be accommodated. Further justification for the cantilevers was the considerable encroachment of the foundations of an adjoining building.

If the columns had been rigidly fixed, they would, of necessity, have been quite large due to the bending moment caused by the long cantilevers. Instead, the columns were hinged at the bottom, which means that there is zero bending force at this point and the columns



Here is the designers' conception of how a two-story office building might be added on top of the garage. Columns are designed to take such a load. Because the unit buildings are stable by themselves, slabs and ramps between units could be removed for construction of an elevator shaft or stairs



Small schematic drawings demonstrate the difference in structural behavior between a column fixed at both ends and the column used in the garage, hinged at one end. The shaded triangles represent the bending moment diagrams for the two types of columns. Note that with zero bending moment at the bottom of the hinged column, it can be very much smaller at the bottom than at the top, apparent in the typical column drawing at left. The hinge is formed by the shaft and plate.

could be tapered down to a small diameter at the bottom. The hinge at the base allows the unit buildings to be independent, since the bending moment of the columns is not transferred from one building to another. Forces created by uneven settlement of foundations will not create bending moment in the structure. Thus the number of stories is limited by the compressive resistance of the columns of the stories below.

There are no construction savings in these tapered columns when compared with columns of constant section — square, round, etc. However, the space which is gained at the base of the column for access of automobiles more than warrants the additional cost, according to the designers. They assert that sometimes these dimensions are so critical that the saving in space can mean the difference between building an expensive or a low cost facility such as the New Orleans parking garage.

In order that the ramps would not complicate the parking areas, they are just hung between the unit buildings. Ramps and the slabs around them could be removed without any structural effect. The ramps are not continuous, but are designed in two sections so that the unit buildings are still independent. (See sketch, p. 171.) The unit buildings can remain a standard size with minor adjustments, and the length of the slab suspended between buildings can be variable, or where convenient, omitted completely. In this garage, ramps are suspended approximately on 48-ft centers.

Thorough structural planning yielded considerable savings in steel and concrete. The thickness of the slab was reduced to an average of 7½ in. as compared with 12½ in. uniform thickness if the garage had been a continuous monolithic structure. Also, if the columns had been spaced at 24-ft centers instead of alternating at 16 and 32 ft, a 9-in. uniform thickness would have been required.

Due to the design used, up to 30 per cent of the reinforcing steel was saved, even though the average depth decreased. Recently, the designers investigated a method of stress analysis which is performed on a plastic model of the structure to be built. Called *Presan* (photo-reflective stress analysis), the method tells exactly how much reinforcing steel is needed and where it should be located, and now the engineers believe that the weight of reinforcement could have been reduced another 30 per cent. The actual quantity of reinforcing steel used was an average of 5 lb per sq ft of slab area.

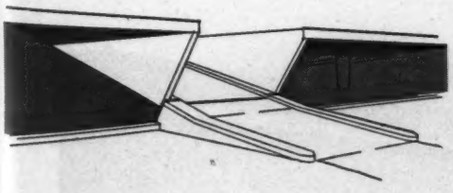
Hinge Construction

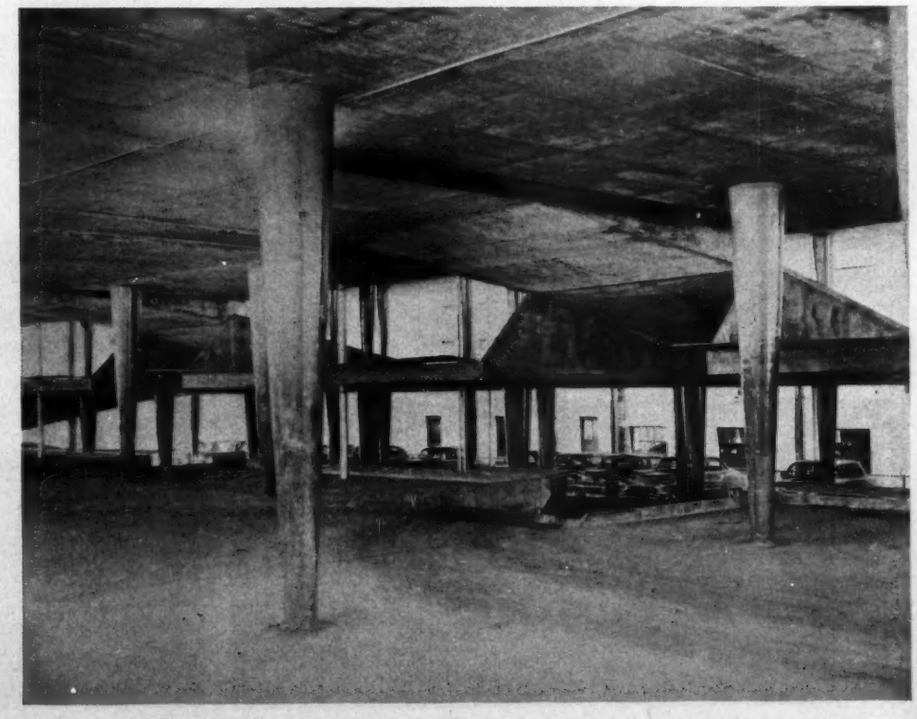
Column reactions are transferred to a 3½-in. diameter, cold rolled steel shaft, which is set in a socket at the base of the column to form a hinge. (See sketch above.) The socket consists of steel plates and another section of shaft which transfers the load to the column below. Reinforcing bars of the columns are welded to the shaft, and the shaft is embedded in concrete to transfer the axial load from column to shaft and shaft to column. This is shown also in the sketch.

Conventional flat slab construction usually requires square drop panels and conical heads on top of the columns to reduce the shearing stresses in the slab. Unfortunately, convention has dictated the uses of these same drop panels and conical heads where the loads have not been sufficiently great to require them. With the type of column used here, the need for additional shear reinforcement was eliminated.

Above: imaginative structural engineering is responsible for the slim, clean lines. Slender pipes between the two upper stories are for drainage. Left: gives a good idea of how much space is saved by overlapping the cantilevers

Below: vertical movement of cars is supplied by ramps spaced on 48 ft centers between five rows of unit buildings. They take up very little space and are separated into two sections, so there is no tie between unit buildings





LIGHTING SYSTEMS SUIT TWO BUILDINGS

A. Tailored designs for college art building

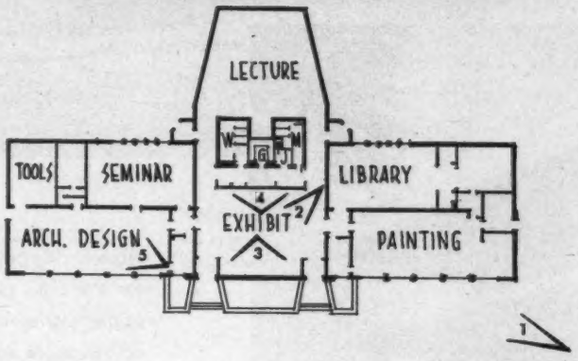
Worcester Art Center, Appleton, Wisconsin

Richard Phillip, Architect

C. M. Brooks, Director of the Center

Adrian Godschalx, Lighting Consultant

1



SPACE, finishes and light are skillfully combined in the Worcester Art Center. Lighting in each room is tailored to suit its purpose. For example, in the entrance exhibit room the keynote is attraction lighting, in the architectural design classroom the lighting is for visual efficiency, in the seminar room the lighting is for atmosphere and appraisal, and in the lecture theater the goal is dramatic display lighting.

Exhibit Room

Cove lighting, downlighting, spotlighting and wall lighting create an inviting setting for art displays. An incandescent cove provides warm, low level atmosphere lighting. Complementing this are the downlights over the center area which give highlight and shadows. The main lighting feature of the room is that pointing up perimeter wall displays. By judicious use of reflector lamps, light draws the visitors' attention to each art grouping being displayed.

Architectural Design Classroom

In contrast to the display lighting of the Wriston Exhibit Lobby is the very functional, but comfortable, lighting in the architectural design classroom. Here over 50 footcandles are provided on the drawing board, because of the long hours of close and detailed work being done. Fixtures are metal-sided luminaires which shield the fluorescent tubes from crosswise view. However, louvers under the lamps are eliminated as the tubes are of the large diamenter, low brightness type. Elimination of louvers with this type of fluorescent fixture also cuts cleaning bills. The low brightness lamp reduces reflected images from glossy paper and drawing equipment.

Life Drawing Classroom

Lighting here is the same as in the architectural drawing classroom, but in addition, light for modeling is provided by supplementary floodlights and spotlights which are arranged as required.

Seminar Room

Recessed, prismatic troffers in the ceiling provide a level of 30 to 40 footcandles, suitable for conferences and also for art study work. Accent lighting is provided by individual adjustable reflector lamps which are aimed at the end wall. Each can be controlled by the lecturer as he stands at the side of the display. Slimline lamps in the drape valance help the drape serve its function of breaking up the severeness of the flat

2

3

wall areas. In a lighted case are art objects on special display.

Library

The library repeats the lighting system of the seminar room, and in addition, the magazine rack alcove is provided with three reflector lamps which invite the student to browse among the current periodicals.

The Lecture Theater

The audience and lecturer are located in a recessed area surrounded by a display area gallery. The lecturer has a miniature control board as part of the podium. From it he can control and dim any of the lights in the theater. He can dim the house lights, bring on any of the six spotlights or flood the gallery side walls. Motor drive operates the screen, and the automatic slide projector changes the slides at the touch of a button. While the room is simple in its surface treatments, the space and the lighting are designed entirely around the needs of the lecturer and the seeing requirements of the audience.

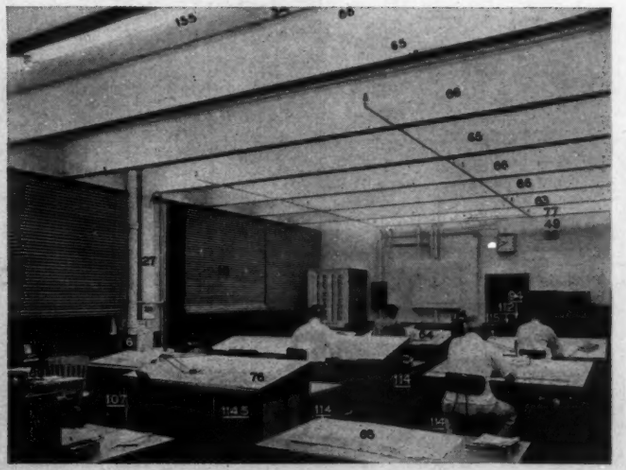
4

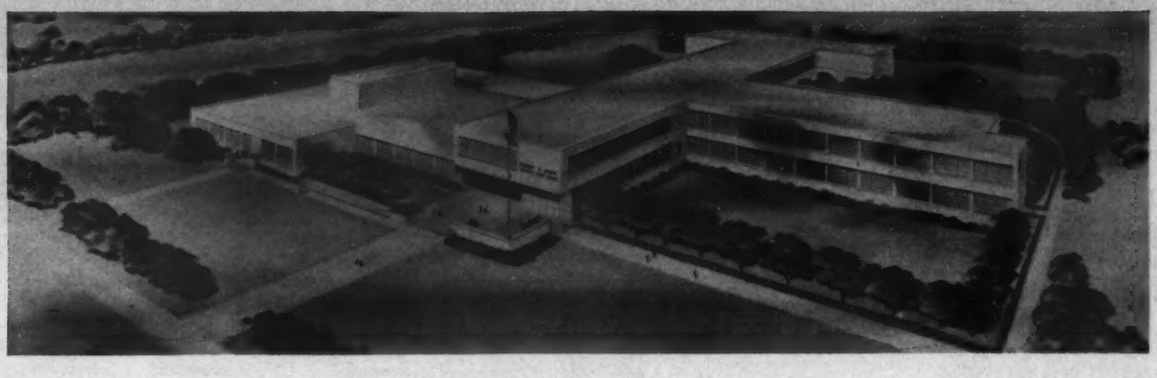
5

B. Lighting helps convert warehouse to offices

Swarthout Co., Cleveland, Ohio

Bright, comfortable lighting was provided in the Swarthout Co. offices, formerly an old industrial warehouse, through ingenious use of the existing deep ceiling beams as louvers for fluorescent lamps. The drafting section has nearly 100 footcandles at night, and there have been no complaints about shadows or reflections. The lighting level in the general office space is well above 50 footcandles. Lower right photo indicates brightness and illumination (underscored) values after 6 months' operation





LIGHT PRECAST JOISTS LOWER SCHOOL COSTS

By J. A. Murlin of George L. Dahl, Architects & Engineers

STRUCTURAL concrete framing generally is tailor-made at the site, in contrast to factory-fabricated steel framing with its production line economies. When a prefabricated structural unit, such as the lightweight concrete floor and roof joist shown here, is made available to the building industry, it is a definite step in the right direction — application of factory mass-production and quality control, resulting in less on-the-site labor and lower building costs. Fig. 1 is a cross-section of the joist, which is cast in metal forms, steam cured and stock-piled awaiting shipment. The aggregate used is expanded shale.

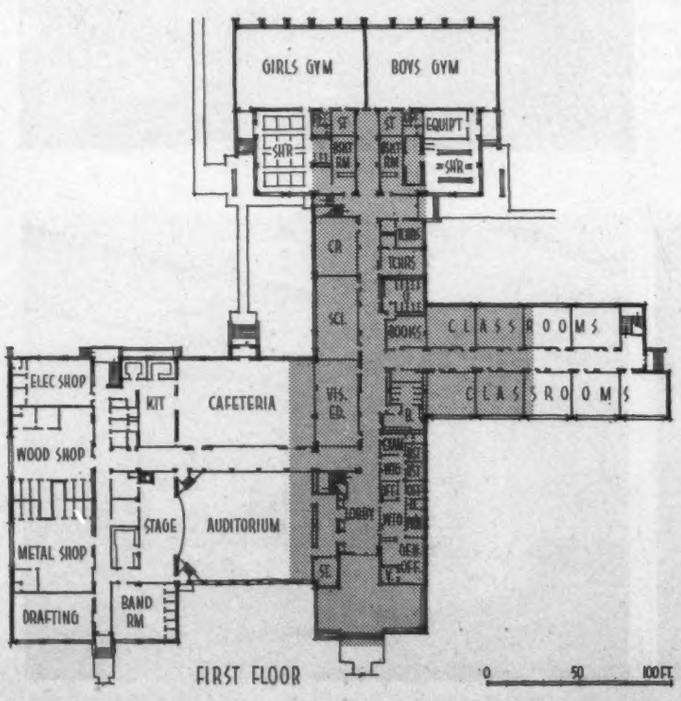
Joists Tied into the Structure

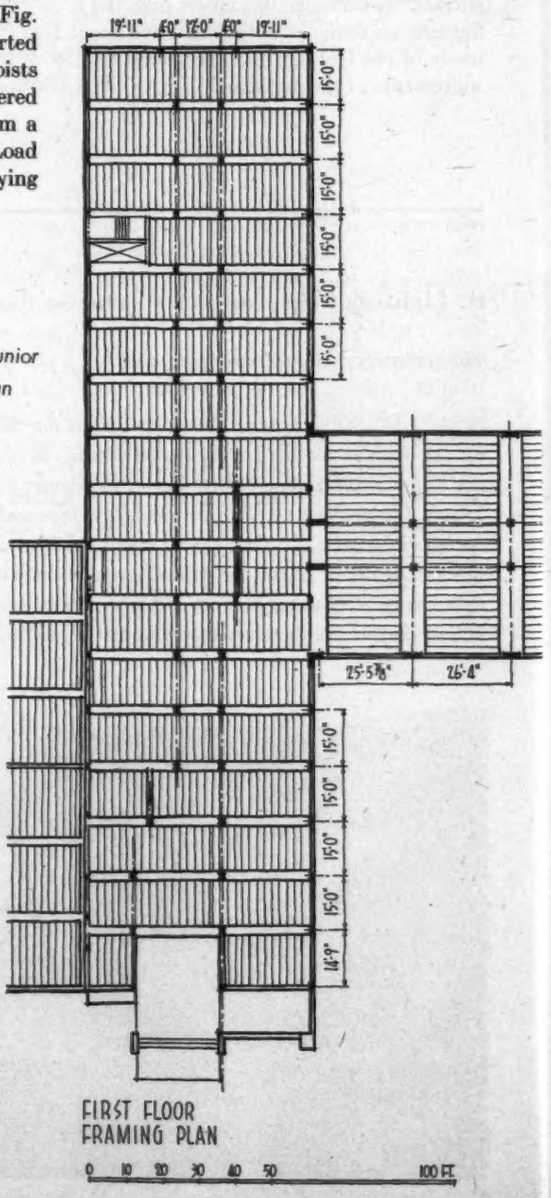
The joists may be used as floor or roof decking laid on prepared supports of steel or concrete, but their greatest contribution to economy is in the so-called "continuity system" illustrated in Fig. 2. Rather than being simply supported on the beams, the ends of the joists project into the beams and are covered by a concrete topping so as to form a continuous monolithic structure. Load tests prove the joist capable of carrying 58 lb per sq ft as a simply supported beam 20 ft long, or 76 lb per sq ft when it is integrally cast with its supports. Its own dead load weight is 20 lb per sq ft in the standard shape dimensioned in Fig. 1.

The method of forming and shoring

The author's first article on applications of lightweight concrete appeared in June.

Plant-fabricated concrete joists bring the economies of factory methods to a large junior high school in Dallas, Texas. Shading on small plan indicates extent of framing plan





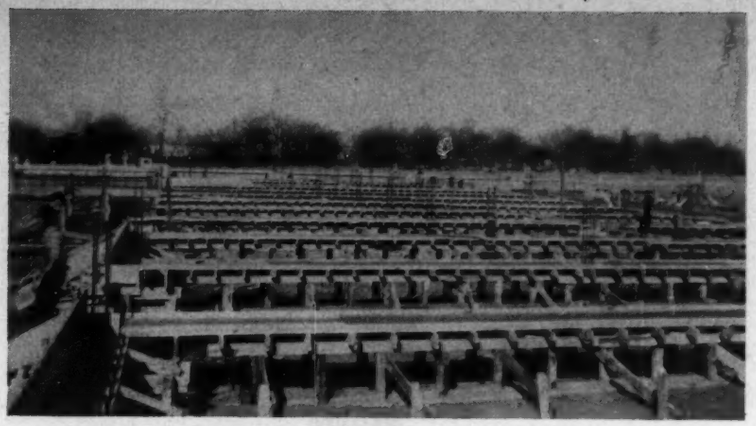
shown is for a bay with 24-ft column spacing. The only formwork required for the entire bay is the flat bottom of the 4 ft 4 in.-wide beam. The precast joist is laid on the 2 by 4 at each side of the form, the joist projecting 2 in. into the beam space. Plywood closures are nailed in place at the ends of the joists and the deck is ready for pouring the concrete. The 1½ in. to 2 in. topping can be poured at the same time as the beam, except that it has been found more advantageous to pour the beams an hour or so ahead of the topping because of settlement of the concrete in the beam.

The steel shown in the bottom of the joist legs in Fig. 2 is extended about 9 in. Another bar is cast in the upper leg and extends back into the joist beyond the quarter point, and also far enough into the beam to provide full bond strength. Wire mesh is needed in the topping and longitudinal steel in the beams (not shown in the drawing).

Labor and Material Economies

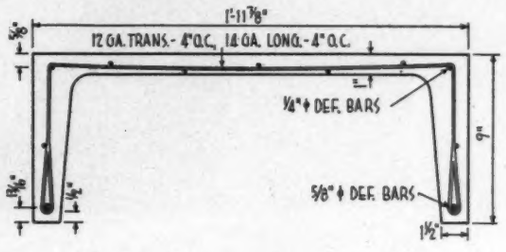
Apparent immediately are the tremendous savings in labor and materials. Furthermore, the speed with which an entire building may be framed saves as much as 30 per cent of the usual labor cost. The photos show this type of framing for a large junior high school being built in Dallas. As proof of the labor savings mentioned above, this building was completely designed twice — first using flat plate design with lightweight concrete as described in a previous article (*Steel Saved in Lightweight Building, June 1951*); and then with the precast joist system. Calculated savings for the flat plate design over any other type of framing was about 45 cents per sq ft. The contractor bid the precast system at $36,000 less than the flat plate which, for 84,000 sq ft, amounts to an additional 43 cents per sq ft. Thus, the total economy is about 88 cents per sq ft, or 10 per cent of the entire general contract. The contractor had had no previous experience with this type of framing. Otherwise, the savings would undoubtedly have been much greater.

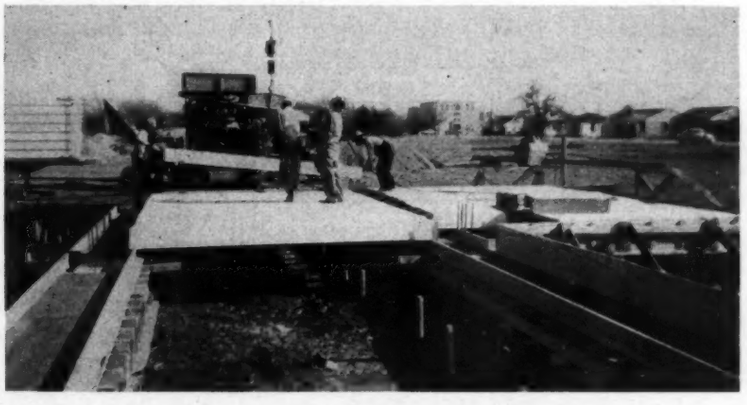
The classroom wing of this building will serve as an example of steel savings. Column spacing the long way was 26 ft 4 in., which called for an 80-in. wide supporting beam for the precast joists. With the 4000 psi lightweight concrete described, it was possible to span the short way of the wing with a beam depth of 12⅝ in., the columns being spaced 24 ft, 12 ft and 24 ft. The weight of steel per beam was 2816



Above: Formwork is kept to a minimum, evidenced by that shown for the first floor beams. Column reinforcing protrudes. Below: Cross-section through joist showing location of reinforcing

FIG. 1





Above: Crane not shown in photo lifts joists from load at left and lowers them into position, spanning between beam formwork. Below: Second floor joists near one of the columns

After joists have been set between beam formwork, plywood closure blocks are nailed in the ends before the beam concrete is poured. Sketch below shows continuity of framing system

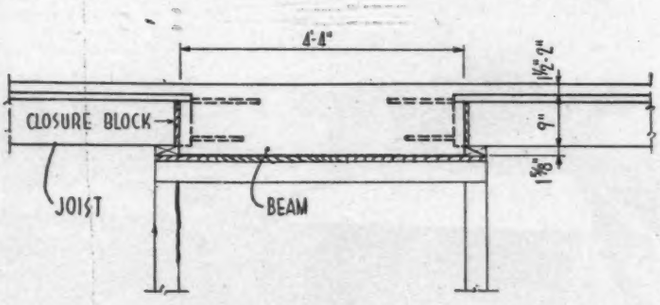
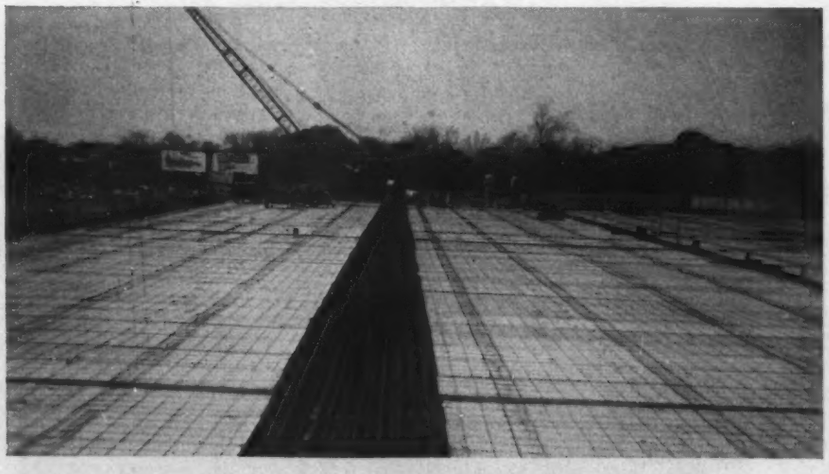


FIG. 2

Below: Beam reinforcing and wire mesh have been laid. It was found best to pour beams first, the topping an hour later



lb. Had sand and gravel concrete been used, the steel required would have been 3532 lb — an increase of 25 per cent per beam and a difference in cost of $72 which is considerably more than the $38 difference in cost of the lightweight concrete over the sand and gravel.

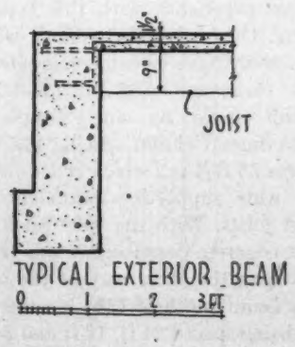
Lightweight Concrete Characteristics

The precast joist system may be used with supporting structure and topping of sand and gravel concrete, but in this case lightweight structural concrete was used for all concrete above the grade beam level. The mix design used was 658 lb cement, 1456 lb crushed expanded shale aggregate, 407 lb of blow sand (aids workability, prevents "bleeding"), plus 3½ lb of an admixture which acts as a retarding densifier.

A typical laboratory report of the mix shows 10.5 gal of water in the aggregate, 41 gal added at the mixer. Evidently the water in the aggregate does not immediately enter into the hydration process, so the water added at the mixer approximates that for the usual sand and gravel water-cement ratio. Test results show that 45 cylinders broken at 7 days had an average strength of 2448 psi, 21 cylinders broken at 28 days averaged 3958 psi, while 2 trial cylinders broken at 90 days yielded 5770 psi.

Conventional hard rock concrete attains most of its strength in 28 days, while this lightweight concrete continues to gain strength at a fairly high rate at least until 90 days.

The most apparent effect of this slow self-curing is the complete absence of shrinkage cracks in the thin 1½ in. topping poured on the precast joists. Where the thin topping joins the beams (depth generally 12⅝ in.) not a single crack occurred. All pours were made in warm weather. A spray solution applied immediately after troweling was the only curing method used.



PRODUCTS for Better Building

Flexible Steel Tubing Developed For Radiant Heating

Therma-Koil Flexible Steel Tubing, a new product specifically developed for hot water radiant panel heating systems, is considered quite timely by its manufacturers, due to the current restrictions on copper and limitations on the production of iron pipe. The firm reports that the supply outlooks are excellent for the type steel from which the new tubing is made.

Therma-Koil is finished with a protective coating against corrosion, and comes in two sizes, ½ and ⅜ in. inside diam. Both sizes have a wall thickness of .035. The tubing is formed from SAE 1008 low carbon sheet steel, joined by a process of electric resistance welding. These seamless joints are claimed to have greater strength and equal flexibility to the tube wall itself, which is said to withstand a working pressure of 1000 lbs per sq ft. Hard exterior walls of the tubing are said to minimize damage from denting or pinching. It is available in continuous lengths up to 500 ft. Special compressing type fittings and balancing valves, which require only a hand wrench, are available. The tubing is said to be low cost, and easy to handle and install. Thermapanels, Inc., 342 Lincoln Ave., San Jose, Calif.

Flexible steel tubing, above, in a radiant heat installation before concrete is poured

Economical Building Block

Ytong, an economical building block composed of low quality oil shale, limestone and coal mine waste, has been used in Europe by the Swedish architect Dr. Axel Eriksson. Its compressive strength is 1000 lb per sq in. The material is claimed to be fire proof, frost resistant and water resistant. It is said that it can be worked like wood, cut, sawed or plugged. These blocks are said to be capable of carrying external walls up to ten stories. This material has been in use in Europe since 1929; in Sweden a wall built of ten-inch blocks of this material is officially recognized as fire proof. This material is suggested for use in partition walls, insulating slabs, roof slabs, and lintels. The manufacture of this block is a patented process, franchise rights are being sought in America. Further information can be obtained through the American Nayco Corp., N. B. C. Building, Cleveland, Ohio.

Modular Drafting Aids

Among the materials available for the assistance of the architect in modular planing are 32-in. width rolls of paper marked in grid lines to the module of 4 in. These rolls are available in grids having scales of ¼ in. equals a ft; to scale ⅛ or 1½ in. only a change in module value is necessary. The drawing can be made directly upon the scaled tracing paper, or a coated paper may be used as an underlay. All are supplied in rolls, in lengths of 5, 10, 20, and 50 yds. Also available are Palmer Modular Design Scales for masonry courses. These are supplied in 13 in. lengths of acetate-covered cardboard with ⅛, ¼, and ¾ in. equals 1 ft. Palmer Manufacturing Co., 3237 Lee Blvd., Arlington, Va.

Floor Tiles

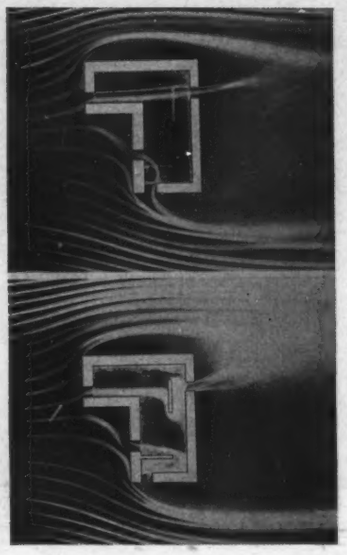
• *Pearltone*, a vinyl tile flooring features a pearlized vinyl element distributed over the surface. The introduction of this element aids in the disguise of stains and traffic scars. This product, like the standard line, does not require waxing for maintenance. It may be cleaned with soap and water. Available in seven basic colors, it comes in 6, 9, and 12 in. squares, ⅛ in. thick. Dodge Cork Co., Inc., Lancaster, Pa.

• *Arraflor*, vinyl-asbestos tile flooring is suggested for application where heavy traffic conditions exist, in below grade installations where moisture is to be considered, or where grease, oil, and fat conditions prohibit the use of other types of flooring. The producer states that this product is not affected by such solvents as gasoline, naphtha or alcohol. *Arraflor* is available in 18 marbleized colors in 9 by 9 in. square tiles. B. F. Goodrich Flooring Division, Watertown 72, Mass.

• *Texfloor Terano* tile's "finger painting" coloration introduces an interesting variation on the usual marbleized effect. Available in six colors this new pattern supplements the company's mid-year showing of new products. It is available in 9 by 9 in. squares of standard tile gauge. Sloane-Blabon Corp., 295 5th Ave., New York 16, N. Y.

(Continued on page 186)

LITERATURE FOR THE OFFICE



Typical illustrations showing sections of architectural shapes under wind tunnel tests in natural ventilation study

Natural Ventilation Study

Some General Considerations in the Natural Ventilation of Buildings, Research Report No. 22. This report prepared by an architect, a physicist, and an aeronautical engineer explains some of the basic movements of air in a particular application, that of architectural design. It gives the architect a basic foundation from which he may predetermine the manner in which he may proceed with his design, taking full advantage of natural ventilation. Characteristics of air flow are thoroughly covered under eight headings. Some of them are high pressure areas, wind shadows, inertia, location of openings, maximum air changes, and changes in the direction of air flow. Photographs show the circulation of air about various model shapes and illustrate well, along with drawings, the movement of air masses. Typical problems are stated and the solutions are given to further illustrate the basic principle of air flow. Texas Engineering Experiment Station, Texas A and M College, College Station, Texas.

Steam Generators

Steam in a Package. This descriptive pamphlet shows clearly the major refinements in the design of the firm's steam generators. Attention is paid to the overall coverage of the engineering that has been done upon these units; it is presented in such a manner that the layman can fully appreciate the efficiency of the unit and what it has to offer in the line of power supply. 11 pp., tables. York-Shipley, Inc., York, Pa.

Figured Glass

Figured Glass by Mississippi. Booklet illustrates thoroughly the applications that have been made with the manufacturer's products. There are approximately 100 photographs showing the applications of corrugated glass, and many other patterns of textured glass. 20 pp., illus. Mississippi Glass Company, 88 Angelica St., St. Louis 7, Mo.*

Truck Mixed Concrete

Horizontal and Adjusta-Hite Moto Mixers, Bulletin 51-29. Pamphlet illustrates the versatility of the Adjusta-Hite designs and gives full specifications of the machine. The applications of this mixer design are shown with photographs of trucks supplying materials in the field. Dimensions of the machine are given for each capacity, 3 yd, 4½ yd, and 5½ yd. 23 pp., illus., tables. Chain Belt Co., Dept. PR, 1600 W. Bruce St., Milwaukee, Wis.

Air Conditioning

Air Conditioning in Theaters, AD 16-R. Reprinted from Refrigerating Engineering, this pamphlet concerns the problems that are encountered in the design of a system for a theater. It covers such subjects as interior design conditions, cooling load, outside air quantity, air circulation, required air, equipment size, location and arrangement of apparatus, selection of refrigeration system, exhaust air systems, and automatic control. 8 pp., graphs, tables, illus., price 45 cents. American Society of Refrigerating Engineers, 40 West 40th St., New York.

Stage Equipment

Clancy Proscenium Treatment. How to Build a Modern Stage. The first of these two catalogs describes the effects that can be obtained with contour curtains, movable stage dollies and the services rendered by the firm.

The second pamphlet describes available consultation services on stage design that are available to the architect. (1) 15 pp., illus; (2) 5 pp., illus. J. R. Clancy, Inc., 1220 W. Belden Ave., Syracuse 4, N. Y.

Perimeter Heating

Perimeter Heating — Engineering Installation Manual. A full description of perimeter heating is given in this booklet. Installations in floor slabs, floors with crawl space under them, and floors with full basements under them are covered in detail. Methods of providing perimeter insulation are also discussed. 36 pp., illus. The Lennox Furnace Co., Marshalltown, Ia.

Textured Metal Sheets

Rigidized Metals. This folder discusses strength of surface textured metals compared with standard flat sheets of metal. Examples are given showing the amount of weight saved with rigidized metal sheets compared with flat sheets of comparable strength. Tables showing rigidity, buckling strength (cylinder), impact, and tensile strength. 8 pp., illus. Rigidized Metals Corp., Dept. A, 685-P Ohio St., Buffalo 3, N. Y.

Dry Expansion Coolers

Freon Coolers, Dry Expansion Type. Catalog describes standard line of firm's coolers and includes charts and tables

(*Continued on page 216*)

**Other product information in Sweet's File, 1951.*

NOTES FROM AN ARCHITECT'S SKETCH PAD

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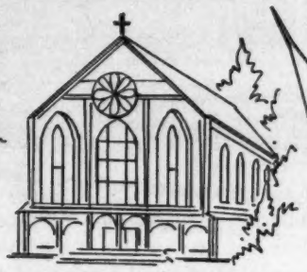

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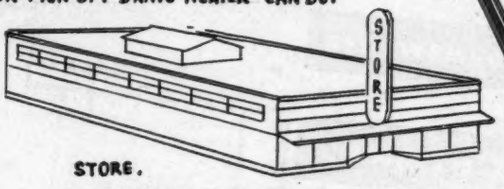

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WITH DRAVO HEATERS, CAN USE ONE SET OF DUCTS FOR HEATING AND AIR-CONDITIONING.

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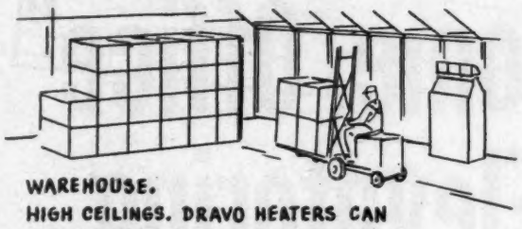

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HIGH CEILINGS. DRAVO HEATERS CAN REDUCE ROOF HEAT LOSS, KEEP HEAT WHERE IT'S NEEDED.

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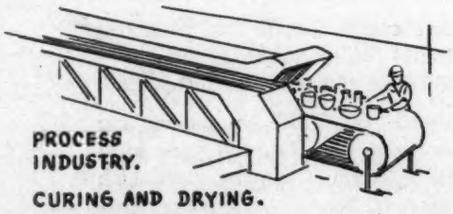
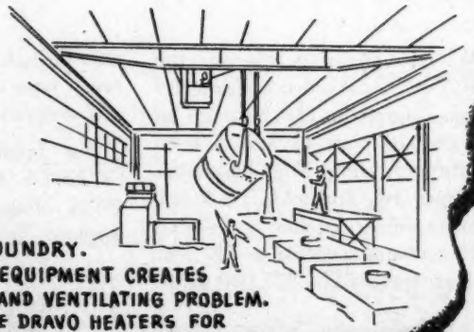
NEEDS HEAT AT WORKING LEVEL. DRAVO HEATERS IDEAL.



PROCESS INDUSTRY.
CURING AND DRYING. SPECIFY DRAVO HERE.



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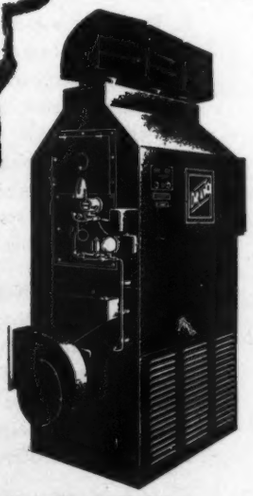
EXHAUST EQUIPMENT CREATES HEATING AND VENTILATING PROBLEM. USE DRAVO HEATERS FOR TEMPERED "MAKE-UP" AIR.



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A case study on any ... installations is yours for the asking. For complete information on how Dravo "Counterflo" Heaters can help solve your heating problems, write for Bulletin LM- 26-35

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"Home Office" Elevatoring

R. B. O'Connor & W. H. Kilham Jr., planned the completely integrated new home office building for the Phoenix Insurance Company. The frontage on Woodland Street is 294′-10″; on Asylum Avenue 302′-0″. A single structure, comprising basement, ground floor, mezzanine, 1st, 2nd and 3rd floors, will contain all executive offices, kitchen and dining room, complete staff accommodations; a 760 seat auditorium. Usable floor area will be 227,000 sq. ft.

OTIS ELEVATORING includes *one* 5-floor private Executive Elevator; *three* 6-floor general Passenger Elevators; *one* plunger-electric Freight Elevator serving the ground level loading platform and storage basement; *one* 4-floor Electric Dumbwaiter for food handling from the ground floor and basement up to the executive kitchen and serving floors.

ELEVATOR PLANNING? Here again, OTIS approached a 'single-purpose' office building, as it does all vertical transportation problems — *with a background of experience that is unequalled anywhere!* Otis designs, manufactures, installs and maintains every type of vertical transportation equipment — *and assumes responsibility* for the entire installation.

For further details of OTIS equipment, see SWEET'S Architectural File. Or, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

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RADIANT HEATING SYSTEMS FOR HOUSES – 6: Hot Water Systems

By William J. McGuinness

Professor of Architecture, Pratt Institute

This second installment in the series on radiant heating presents a simplified procedure for the design of a domestic hot water radiant system. A typical example worked out by this method will appear in the Time-Saver Standards for October 1951.

Designing a System

The following procedure is suggested.

1. Layout — Make a tentative layout of the system applying the foregoing principles.

2. Heat Loss — Compute the hourly heat loss from each room, including infiltration but omitting any loss through the surfaces selected to act as panels.

3. Adjustment — Reduce individual room heat losses by the amount gained by reverse flow from panels in ceilings below.

4. Establish the Required Panel Output — The panel in each room must give out enough heat to make up the losses found in steps 2 and 3. Divide this loss by the available panel area to find the required net output in Btu per hr per sq ft. Provide enough panel area to keep this output below 75 for ceilings and 55 for floors, otherwise discomfort or damage may result. If the ceiling is chosen, a portion of the floor may be added or vice-versa.

5. Find the Gross Output for Each Panel — Fig. 1 (a through e) (See Sheet 2, "Radiant Heating Systems For Houses," ARCHITECTURAL RECORD, August 1951) shows the relation of effective (panel) output and the additional reverse heat flow. Together they make up the gross output. Using the percentages for the selected type of panel, establish the gross output in each case.

6. Select a Water-Temperature Drop — When smaller temperature drops are selected, larger pumps are required, for a fixed length of coil and a given tube size. For ceiling installations, with smaller pipes and their greater resistance to flow, a 20 deg drop is suggested, while the larger pipes used in floors work well with 10 deg drops.

7. Select an Average Water Temperature — for a fixed MRT (here assumed to be 70 deg), the panel output depends upon the size of pipes, their spacing and the average temperature of the water. Critically high outputs are achieved only by large pipe, closely spaced and high water temperatures. It is best to provide enough panel area to keep the required outputs well within the prescribed high limits. Another conservative choice is to use a little extra pipe and a correspondingly lower average water temperature. A temperature of 130 deg is suggested as a trial temperature for ceilings. Temperatures

TABLE 2

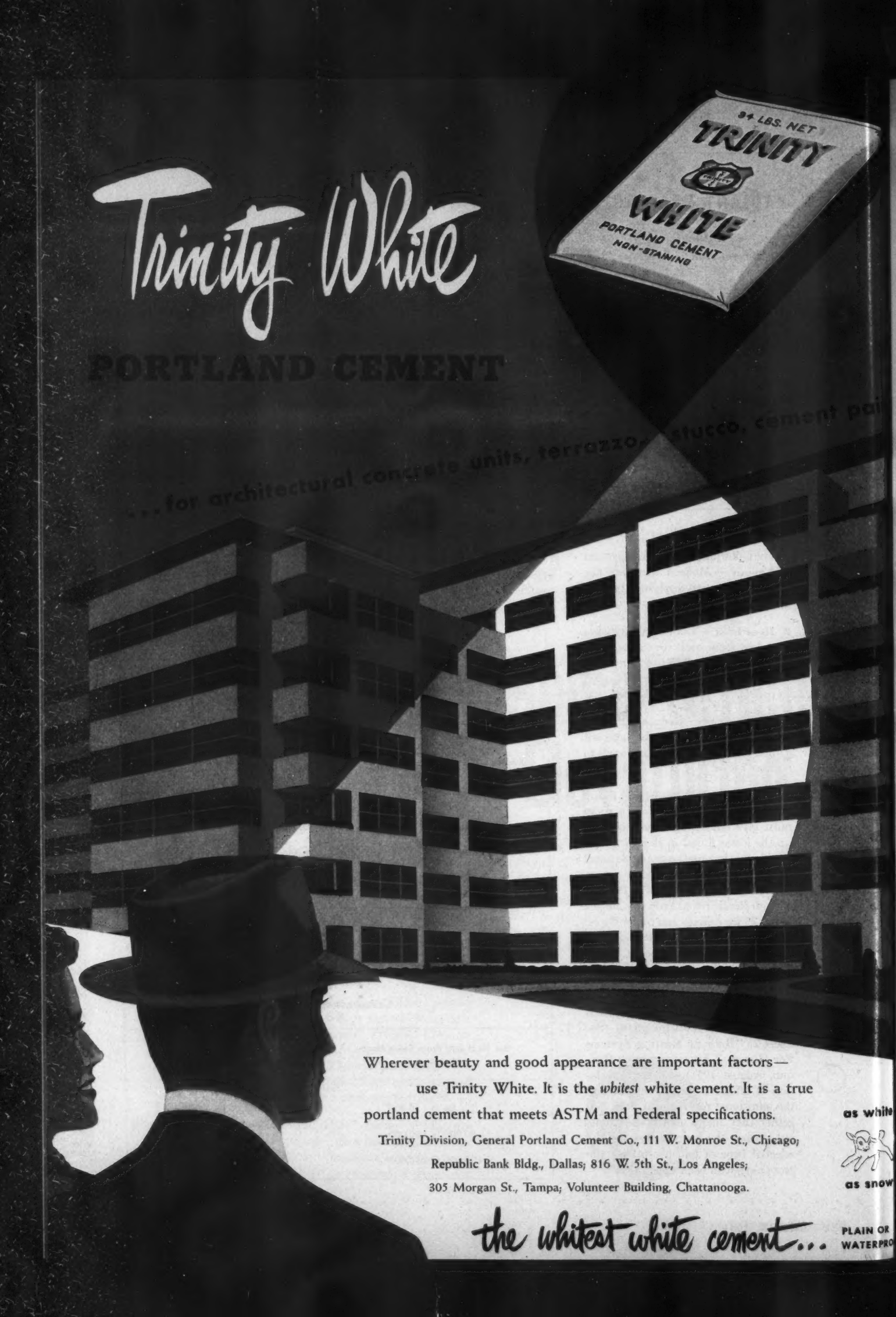
Heat Carrying Capacity of Mains

Nominal Diam. of Main (pipe or tube)	*Heat Conveyed in Btu Per Hour*	
	For a 10 deg drop	*For a 20 deg drop*
1 in.	up to 35,000	up to 70,000
1¼ in.	35,000 to 70,000	70,000 to 140,000
1½ in.	70,000 to 100,000	140,000 to 200,000

TABLE 3

Compression Tanks

Net Heat Loss From Entire House (Btu per hr)	*Capacity of Compression Tank (gallons)*
Up to 50,000	15
50,000 to 100,000	18
100,000 to 150,000	24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...for architectural concrete units, terrazzo, stucco, cement pai
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RADIANT HEATING SYSTEMS FOR HOUSES – 7: Hot Water Systems

By William J. McGuinness

Professor of Architecture, Pratt Institute

over 140 deg should be avoided to prevent possible calcining of the plaster. For floors, a trial temperature of 110 deg is suggested.

8. Design the Critical Panel — Using the panel with the maximum required output, select a pipe size and average water temperature and, by means of Table 1 (See Sheet 4, "Radiant Heating Systems For Houses," ARCHITECTURAL RECORD, August 1951), find the length of pipe needed for the panel. Lay out the panel keeping the spacing within the limits suggested. Note that the table is based upon the gross output of the panel. The pipes may be spaced closely at the outside wall and increase in spacing toward the interior. Maintain the length of pipe required for the entire panel.

9. Design the Other Panels — Using the average water temperature of step 8, which must now remain constant for the entire system, find the length of pipe needed for the other panels, by the use of Table 1. Lay out the panels, indicating the spacing of the pipe. Generally one material — copper, wrought iron or steel — is used throughout one installation. If it is necessary to use two different average water temperatures, special equipment is needed. This should be avoided if possible.

10. Size the Mains — When a number of coils are served by a main it may be selected from Table 2 (See Sheet 6) on the basis of its heat-carrying capacity for the temperature drop selected for the system.

11. Compute the Water Flow — The required flow of water to make up the heat loss in the system is found by dividing the hourly heat loss by a factor dependent upon the water temperature drop. The flow is expressed in "gallons per minute" — GPM.

$$\text{For a 20 deg drop, Gpm} = \frac{\text{Btu/hr}}{10{,}000}$$

$$\text{For a 10 deg drop, Gpm} = \frac{\text{Btu/hr}}{5000}$$

Flow through any circuit can be found by dividing the heat loss in that circuit by the same factors.

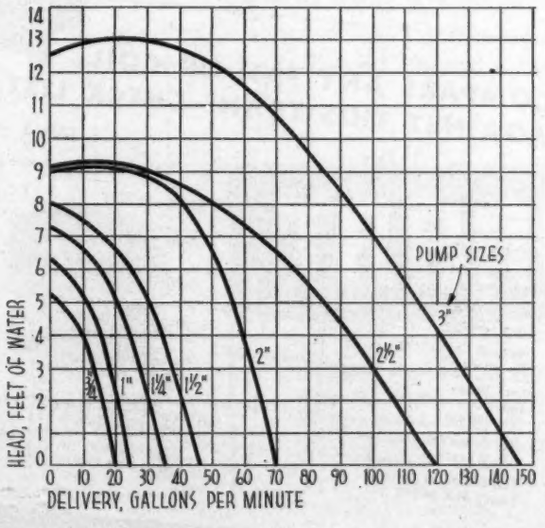
12. Select a Pump — On the basis of the number of gallons per minute of water to be pumped through the system and the frictional resistance of the system expressed in "feet of water," a pump may be selected from Fig. 6. The frictional resistance is called "head" and is established as follows:

Trace the longest circuit through which water passes. Find the lengths of the main, the long coil and the return main. For each of these find the friction in ft per 100 ft of pipe from Fig. 5 (See Sheet 5, "Radiant Heating Systems For Houses," ARCHITECTURAL RECORD, August 1951). The total friction of each may now be found by multiplying the length by the unit friction. Add these and increase by 50 per cent to allow for the effect of boiler and fittings. With the total head and the total flow, select a pump.

13. Select a Boiler — The net rating of the boiler selected must at least equal the gross output of the system. In the usage of most manufacturers, there is enough capacity in a boiler so chosen to take care of normal domestic hot water needs. For unusual hot water demands, the capacity of the boiler must be increased accordingly.

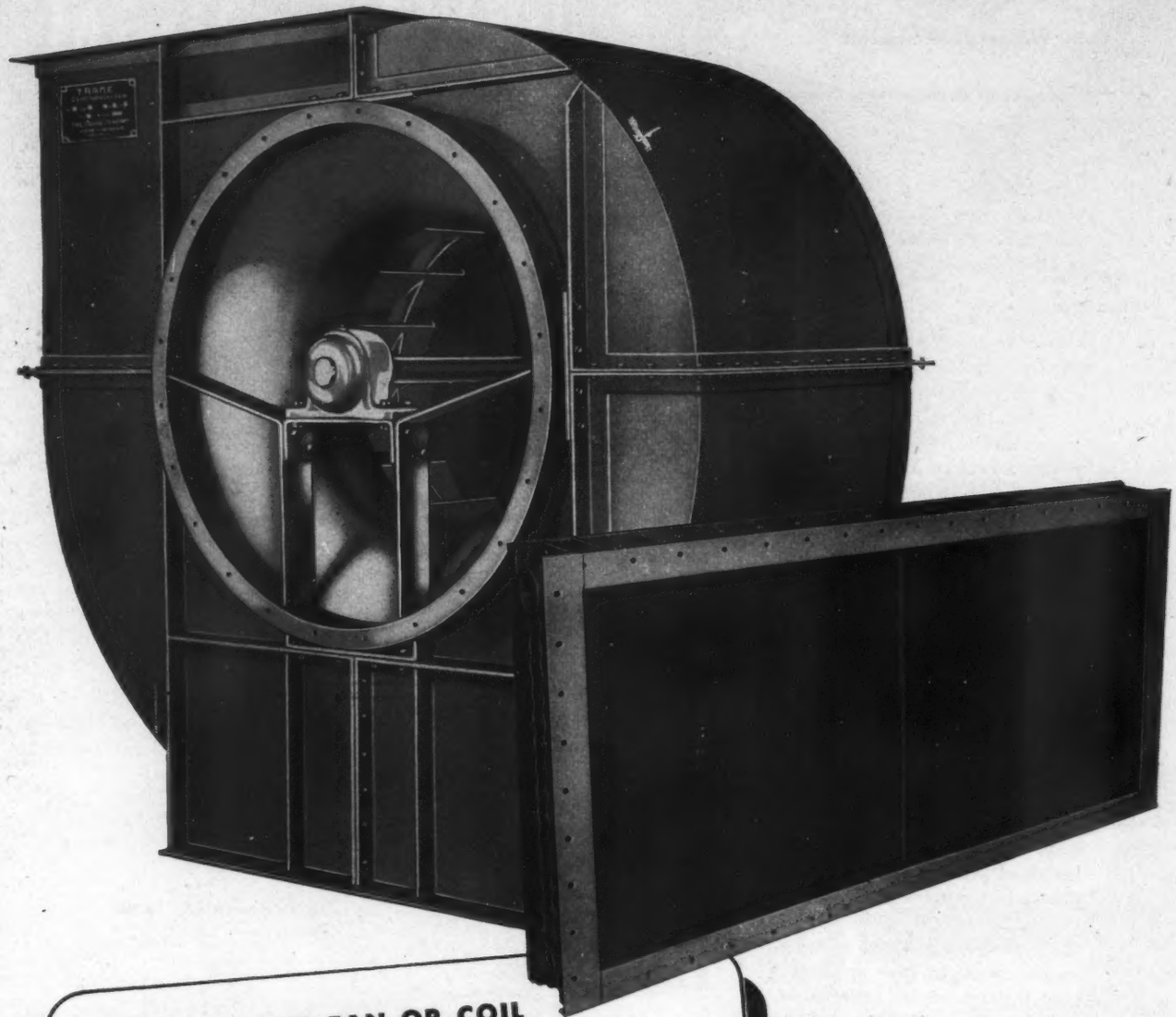
14. Compression Tank — From Table 3 select a tank of the proper volume to permit expansion in the system.

FIG. 6. Pump Performance Chart



TIME-SAVER STANDARDS Architectural Engineering

LESS HORSEPOWER AND



COMPARE ANY FAN OR COIL AGAINST THIS TRANE CHECK LIST

FANS

Feature	Trane	Fan A	Fan B
Chlorinated Rubber Enamel	X		
Formed Inlet Openings	X		
Uninterrupted Duct Collar	X		
Welded Construction (Large Fans)	X		
Lock Seam Construction (Small Fans)	X		
Full Capacity Fan Wheels	X		
Fan Blades as heavy as 7 gauge	X		

COILS

Feature	Trane	Coil A	Coil B
Kinetic Orifice	X		
Plate-Type Fin	X		
Dual-Fin Contact	X		
Mechanical Bond of Fin and Tube	X		
Bushed Tube to Header Joint	X		
Provision for Proper Tube Expansion	X		
Wide Coil Channels—2¼"	X		

THE KINETIC ORIFICE, the patented Trane feature, releases steam in the direction of condensate flow in steam distributing tube coils. Drainage of condensate is accelerated. Stratification and freezing is eliminated.

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You get triple value when you combine Trane Centrifugal Fans and Trane Coils in a central system. You get outstanding products loaded with exclusive features. You get the rugged construction that has made Trane famous. And, you get the added advantages that come only when you combine matched products. *Together Trane Centrifugal Fans and Trane Coils create a central system that produces top performance with less horsepower than any similar combination.*

Here's why:

Thanks to modern design, the average horsepower requirements of Trane Fans is lowest in the industry. Trane Coils with their streamlined bond of tube and flat plate-like fin offer minimum resistance to air flow. Combine a low horsepower fan and a low air friction coil and power demands shrink accordingly. That means you get greater efficiency and lower operating costs.

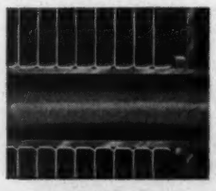
Rugged Construction for Consistent Performance—Then for long life and consistent performance, Trane gives you rugged construction in both products. Compare Trane Fan construction. Part for part, Trane uses metal that is as heavy or heavier than any other manufacturer.

Trane Coils use extra heavy tubing. Coil supports are equally strong. The Trane fin-and-tube construction with its solderless mechanical bond is designed to last a lifetime.

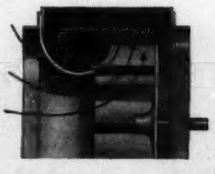
Lower Noise Level Fans – Besides low horsepower and heavier construction, other Trane Fan features include lower noise levels; more accurate fit and tolerance for consistent performance; chlorinated rubber base paint finish to prevent corrosion. Also featured is the uninterrupted collar for easy connection with duct work.

Coil Capacity Increased 15% – First in Trane Coil advantages is the kinetic orifice. This exclusive development in steam distributing tube coils increases capacity as much as 15%. Additional exclusive Trane features—six-step manufacture of fins to insure even heat flow—dual-fin contact that makes the fins an integral part of the tubes and speeds heat transfer – the guide flange assembly that permits expansion of the tubes for longer coil life.

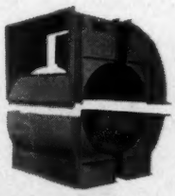
There's similar extra value when you combine other matched products from the complete Trane line of heating, cooling, ventilating and air conditioning equipment. Each product is studded with exclusive features, each offers more rugged construction. And when you combine them in complete systems you get added features such as the less horsepower better performance of Trane Fans and Coils.



DUAL-FIN CONTACT is illustrated in this cutaway section of a Trane Coil. Collar of one fin is extended to next fin to form uninterrupted surface for continuous flow of heat.



ACCURATELY STREAMLINED FAN INLET CONE makes possible even distribution of the air in the fan wheel without noisy turbulence—permits fan to operate at highest efficiency with lowest noise level.



SPLIT FAN HOUSING permits easier installation. On large units, housings can be split on horizontal and vertical plane so fan parts can be moved through small openings and reassembled.

TRANE

THE TRANE COMPANY, LA CROSSE, WIS.
Eastern Mfg. Division, Scranton, Pennsylvania
Trane Company of Canada, Ltd. . . . Toronto
OFFICES IN 80 U.S. and 14 CANADIAN CITIES

OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT

COSTS ROLL DOWN

When KINNEAR DOORS Roll Up

They save SPACE — by opening straight up and coiling above the doorway, allowing floor and wall space around the door to be used at all times.

They save TIME — with smooth, easy gliding action. With motor operation, doors can be motor controlled from any number of conveniently located push-buttons.

They save MONEY — rugged, all-steel, interlocking slat curtain assures long life, low maintenance, and extra protection against fire, intrusion and wind damage.

Every Kinnear door is specially fitted to the individual opening, in old or new buildings. Cannot interfere with traffic or other plant activity. When opened, it stays neatly above lintel, out of reach of damage. The Kinnear door's capacity for years of hard, uninterrupted use under the most difficult conditions has been proved by a half century of service.

Let Us Send You The New Kinnear Data Book. Write For Your Copy Today.

The KINNEAR Manufacturing Co.
1860-80 Fields Ave., Columbus 16, O.
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and agents in all principal cities

Saving Ways in Doorways
KINNEAR ROLLING DOORS

PRODUCTS

(*Continued from page 177*)

Hand Dryer

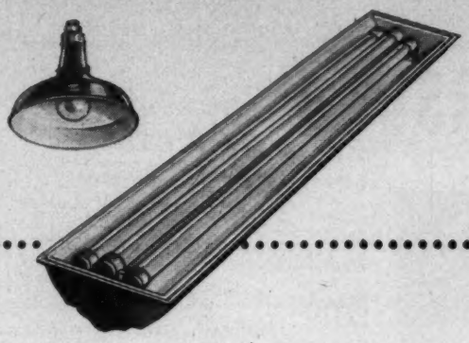
A newly designed hand dryer is claimed to fully dry hands in 20 seconds or less. The unit is finished in porcelain enamel with chromium-plated fittings. Greater heat and greater air discharge are credited for the performance improvements. The nozzle can be rotated through 360 degrees providing face drying also. The machine is automatic, once it is started it runs for 30 seconds and then turns itself off. Concealed bolts prevent the removal of the dryer from the wall. It is fully guaranteed for two years. National Dryer Sales Corp., 616 West Adams St., Chicago 6, Ill.

Hand dryer drys hands in twenty seconds

Masonry Water Repellent

Monoseal, a silicon base liquid water repellent for uncoated exterior masonry walls, is claimed to penetrate masonry to ¼ in. to provide a protective coat but, it is further stated, it does not change the surface characteristic of the masonry. It can be applied by either brush or spray and the manufacturer states that one coat is all that is necessary. The manufacturer also states that due to the nature of the waterproofing it prevents efflorescence and resists stains from dirt and grime that are carried by water into the pores of unprotected stone. It is recommended for use on brick, concrete, stucco, masonry joints, and stone. The Monroe Co., Inc., Dept. M-1, 10703 Quebec Ave., Cleveland 6, Ohio.

(*Continued on page 188*)



See why BENJAMIN "Life-Time" PORCELAIN ENAMEL REFLECTORS are TOP-RATED for industrial lighting

make these three simple tests

MATCH TEST

Hold a lighted wooden match to reflector until black spot appears. Wipe spot with a damp cloth . . . see how quickly all trace of discoloration comes off.

TOP-RATED FOR HEAT-RESISTANCE!

This test demonstrates Porcelain Enamel's high resistance to heat. It is a mineral (non-organic) substance actually fused to steel at 1550° F. Test also gives you an idea of how Porcelain Enamel resists severe weather conditions, such as climatic changes, humidity or other adverse atmospheric conditions.

STAIN TEST

Dab Mercurochrome on reflector; let dry. A few swipes with damp cloth . . . Presto! every bit of stain is gone! Clean, white finish appears at once.

TOP-RATED FOR CLEANABILITY!

Stain test shows how the original efficiency of Porcelain Enamel is easily restored by soap-and-water cleaning. It demonstrates the unusual characteristic of this glass-hard surface to resist the stain, deterioration and corrosion often caused by contact with chemicals found in many industries.

COIN TEST

With a dime, scratch across the reflector surface as hard as you can. Now examine it—you'll see there's not a mark on the flint-hard, glass-like surface!

TOP-RATED FOR DURABILITY!

This test shows how Porcelain Enamel resists wear and scratching, and retains its original luster even after severe abrasive service. It is an example of how this glass-hard surface, combined with the strength of steel, gives Porcelain Enamel reflectors the durability needed for industrial lighting equipment.

In addition to the exceptional stamina of Porcelain Enameled Steel Reflectors, which you can demonstrate by the "home-made" tests above, there are other reasons for their *Top-Rating* in industrial lighting.

They are *Top-Rated,* because they combine high reflectivity with high diffusion to help insure the right *quality* of light for general illumination. Further, they promote *seeing comfort* and provide *more light* with minimum glare.

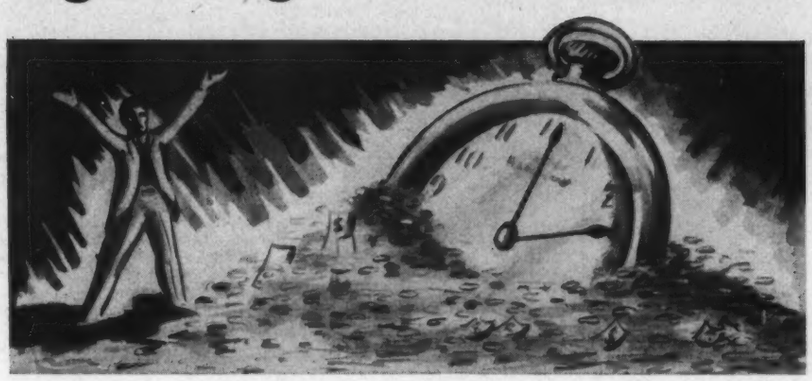
FREE! LATEST BENJAMIN BULLETIN ON DEFENSE PLANT LIGHTING. Shows how specification of Benjamin "Life-Time" Porcelain Enamel Lighting Units helps you attain *Better Planned Lighting for Defense Production.* Ask for Bulletin "AD 5573." Benjamin Electric Mfg. Co., Dept. Q-1, Des Plaines, Ill.

BENJAMIN

Lighting Equipment

Sold Exclusively through Electrical Distributors

OZALID saves costly engineering DRAFTING HOURS!



Here's how Ozalid is serving a typical cross-section of America's industry*—speeding up drafting time and saving costly man-hours.

A LEADING AIRLINE—for engineering drawings, wiring diagrams, statistical charts and display advertising.

ONE OF AMERICA'S LARGEST HOME BUILDERS—for topographic survey maps, general and detailed housing construction plans.

A PROMINENT AIR CONDITIONING FIRM—for product designs (as they write, "Ozalid is doing the work of fifteen extra draftsmen.")

A SMALL MANUFACTURER—for production plans, office records and general statistical work.

**Names and details on request.*

OZALID IS THE SPEEDY COPYING PROCESS that reproduces anything drawn, typed or written†—in seconds. Cuts skilled manpower hours and costs because changes on drawings, specifications and reports are *instantly made on an Ozalid intermediate.*

OZALID ELIMINATES NEED FOR SPECIAL stencils, inks, plates and make-readies. Does away with messy chemicals and time-consuming, costly photocopying steps. All copies are immediately available, dry and ready to use.

†If light won't shine through your original, an inexpensive intermediary step is taken.

1. **OZALID'S** greater technical experience helps you meet increased printroom demands.
2. **OZALID'S** better materials give you quality prints for every job.
3. **OZALID'S** nation-wide coverage is your assurance of better service.

WRITE TODAY for your copy of Production Shortcuts. OZALID, Department E-9, Johnson City, N. Y.

Johnson City, New York.
A Division of General Aniline & Film Corporation. *"From Research to Reality."*
Ozalid in Canada — Hughes Owens Co., Ltd., Montreal

Architectural Engineering

PRODUCTS

(*Continued from page 186*)

Jalousies

An all-aluminum framed jalousie has been produced, with glass louvers set in the frames. This product, the manufacturer states, needs no weather stripping, yet provides ample protection

Aluminum and glass jalousies provide tight seal against weather

against the elements. The unit was placed under actual weather conditions for a year, and is said to have proved its worth to the satisfaction of the manufacturer. It is claimed to be competitivly priced. Union Aluminum Co., Sheffield, Alabama.

Concrete Joint Filler

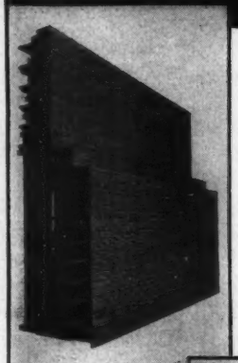
Flexell Expansion Joint Filler, a non-extruding joint filler, is composed of cane fiber which is felted into a strong resilient board and then saturated with asphaltic compound. The manufacturer describes the action of the asphalt as that of water-proofing, but does not plug the air cells of the cane fiber, which give the board its compressibility. It is claimed that *Flexell* does not extrude when the pavement expands, due to the compressibility of the filler. It is also added that due to the resiliency of the cane fiber the joint will expand when the concrete contracts. The Celotex Corp., 120 Lasalle St., Chicago 3, Ill.

(*Continued on page 190*)

HERE ARE FACTS YOU NEED FOR SPECIFYING . . .

MEDART

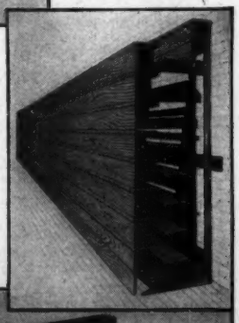
TELESCOPIC GYM SEATS



TOP: "Two Level" installation utilizes balcony for extra seating. **INSET:** Shows "recovered" balcony and main floor areas for regular use

•

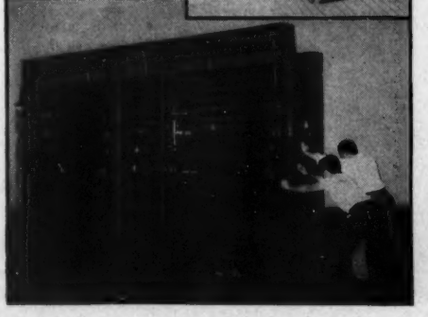
LEFT: High-Row type safely accommodates extra large groups.



RIGHT: Wall or Movable types "nest" in 32½" Walls don't support load.

•

BELOW: Movable units can be easily and quickly moved by 1 or 2 persons.



ECONOMICAL! Safe, quickly accessible seating for maximum extra-revenue spectator capacity—at less cost than knock-down or built-in seating.

SPACE SAVING! Recovers, for daily use, virtually entire floor area normally occupied by fixed seating.

EASY TO HANDLE! Exclusive "Floating Motion" design. Each seat section "nests" snugly in 32½" of space, and may be opened a row at a time, as usage demands, while remaining rows remain "nested."

SAFE! Steel understructure supports the load. Solid, one-piece wood boards furnish *additional* strength. *Four* vertical steel uprights support each row. Seat sections open or close on twin rubber non-marking casters. Under "live" load, uprights bear on large steel shoes that avoid caster depressions in highly finished floors.

STRONG! Stress tests of 400 pounds per linear foot indicate no apparent deflection. Rigid stability tests show no side-sway at peak of stress.

GOOD LOOKING! Light color, natural wood finish, protected with clear heavy-duty lacquer, complements and enhances every modern gymnasium. Steel understructure protected with baked-on enamel.

Medart Telescopic Gym Seats Have Many Other Exclusive Features. Write For Catalog.

SEE OUR CATALOG IN SWEET'S

FRED MEDART PRODUCTS, INC.

3540 DE KALB ST. ST. LOUIS 18, MO.

For 78 Years The Standard Of Quality

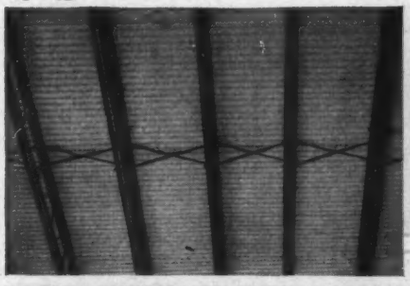
Here's Why Smart Owners Say:

LET'S USE CORRUFORM!

. . . the ONLY engineered form for light concrete floor and roof slabs, with *reliable strength* and *adequate safety* margin for normal construction loads!

ATTRACTIVE, permanent Corruform is furnished galvanized and/or vinyl-primed (ready to paint) for exposed joist construction—or—in natural, black sheets for unexposed joist construction.

DURABLE Corruform is nearly twice as strong as ordinary steel of equal weight. It's an ideal vapor seal, too! With coated Corruform, insulating slabs serve better, last longer.



ECONOMICAL Corruform eliminates waste. Light rigid sheets quickly placed won't bend, sag, stretch, or leak. The concrete you save actually pays for CORRUFORM. Clean-up time and expense are minimized, too!

SAFE Corruform provides an extra-tough, secure steel base for trades and concrete . . . a form which maintains structural principles and integrity, with no side pull on joists, beams or walls.

For Good-Looking Exposed Joist Construction, Always Specify

CORRUFORM Tough-Tempered Steel

SPECIFICATION

Guaranteed average strength over 100,000 psi and certified minimum strength for single test over 95,000 psi. Weight .72 lbs. per square inch.

GRANCO STEEL PRODUCTS CO.
(Subsidiary of GRANITE CITY STEEL CO.)
GRANITE CITY, ILLINOIS

SEND FOR FREE AIA FILE TODAY!

PRODUCTS

(*Continued from page 188*)

Fireproof Filing Systems

Featuring fire-safe storage for drawings and records, these units are designed for preservation of strategic drawings and information, which is essential for many firms at this time. These units

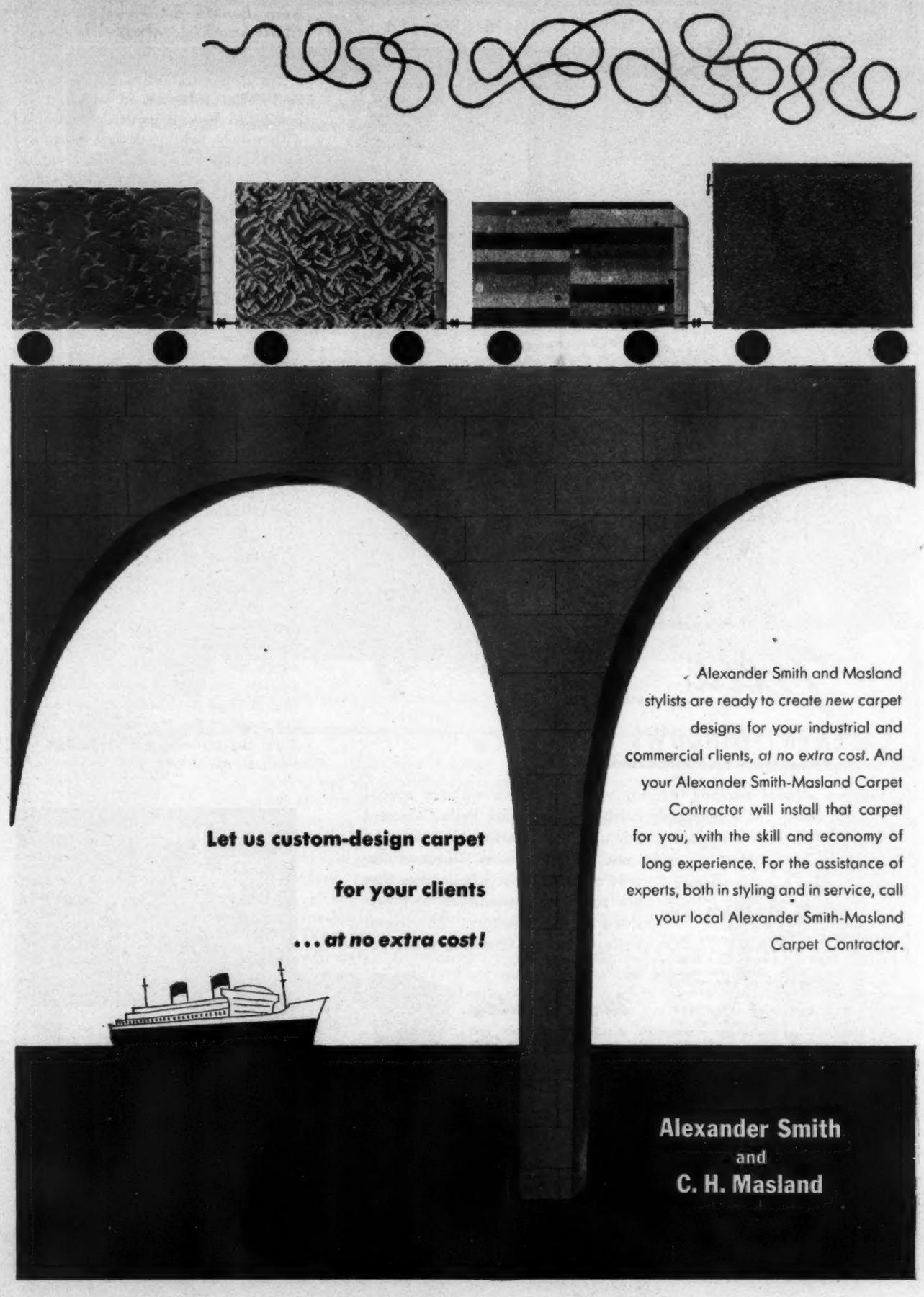
Fireproof drawing cabinets give protection to strategic drawings

are provided with two ratings: severe (4 hour), and medium (2 hour). The *Safe-Cabinet* for drawings is provided in four sizes, (1) 53 in. wide, 75 in. high, 42 in. deep; (2) 70 in. by 76 in. by 41 in. (3) 52 in. by 73 in. by 40 in. (4) 66 in. by 74 in. by 39 in. All units are provided with drawers with inside dimensions of 40½ in. wide, 2 in. high, 26 in. deep. Remington Rand, Management Controls Div., 315 Fourth Ave., New York 10, N. Y.

Felt Adhesive Sealer

Kling Felt is suggested for application where sound deafing, thermal insulation, or a seal against weather or dust is desired. Adhesive upon the application of pressure, it can be applied rapidly; finger pressure will adhere the tape to vertical or overhead applications until forcibly removed, the manufacturer claims. It is available in rolls ranging in width from ¼ in. to 66 in. and in thicknesses from 1/64 in. to ¼ in. It is also available in specified die-cut shapes. Products Research Co., 5426 San Fernando Road, Glendale 3, Calif.

(*Continued on page 192*)



Let us custom-design carpet

for your clients

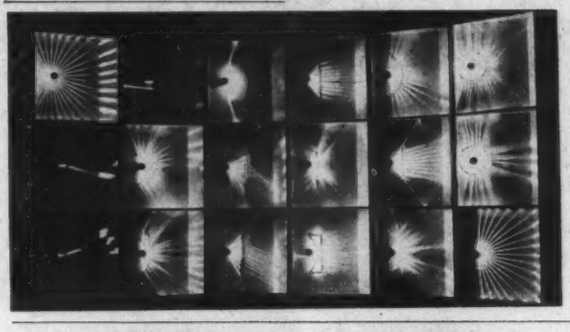
... at no extra cost!

Alexander Smith and Masland stylists are ready to create *new* carpet designs for your industrial and commercial clients, *at no extra cost*. And your Alexander Smith-Masland Carpet Contractor will install that carpet for you, with the skill and economy of long experience. For the assistance of experts, both in styling and in service, call your local Alexander Smith-Masland Carpet Contractor.

Alexander Smith
and
C. H. Masland

PRODUCTS

(*Continued from page 190*)



Light and Vision Institute demonstrates the nature of light. Photo shows a ray of light dispersed by simple optical shapes, as well as directional lighting obtained through application of these first principles

MORE THAN 300
CUSTOM WINDOW EFFECTS
FROM STOCK SIZE UNITS

Pella
CASEMENT WINDOWS

You can achieve exciting custom window effects without special millwork costs. Do it by simply combining stock-size Pella Casement Units into distinctive angular or circular bays, dormers, picture and corner windows, ribbon windows, etc. Pella Casement Windows also save money on the job because they are completely assembled and prefitted at the factory. Investigate Pella Casement Windows today!

CHECK THESE CONVENIENT *Pella* FEATURES

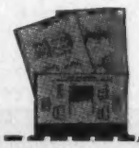
ROLSCREENS — Pella Casements are equipped with inconspicuous, convenient Rolscreens that roll up and down like window shades. Rolscreens eliminate putting up, taking down, painting, repairing, and storage of screens.

DUAL GLAZING AND WEATHER STRIPPING — All Pella Casements are dual glazed to insulate against winter cold and summer heat . . . weather stripped to eliminate drafts.

MANY THERMOPANE SIZES AVAILABLE — More standard Thermopane sizes for Pella Casements are available than for any other wood casement windows. Standard size Thermopane is available for the following Pella Ventilating units: 2316, 2418, 25110, 3216, 3319-K, 3319, 34112. Thermopane or Twindow Insulating Glass is also available in standard sizes to fit most Pella picture windows.

3-LIGHT WIDE UNIT — Only Pella offers a 3-Light 28" wide ventilating unit with full 24" glass width. This is possible because of Pella's patented hinge design, superior 1¾" sash and steel inner frame.

Write Today
for details, specifications and sizes available for Pella Casement Windows. No obligation.



ROLSCREEN COMPANY, Dept. C-42, Pella, Iowa
Please send free new file of CASEMENT details and specifications in A.I.A. folder.

NAME

FIRM NAME

ADDRESS

CITY ZONE STATE

ALSO MAKERS OF FAMOUS PELLA ROLSCREENS AND VENETIAN BLINDS

New Lenses displayed at Light and Vision Institute

The Holophane Company has opened a new demonstration room, the Light and Vision Institute, in which it is possible to show effects that are possible with various lighting devices manufactured by the company. This room is placed at the disposal of architects and the allied professions, for lectures and demonstrations regarding light.

Among the new products demonstrated is a vertical surface lighting fixture, one of a series of *Controlens;* a surgery unit that develops 3000 foot candles; and a prismatic lens that eliminates strong light ray concentration in the area where the eye receives glare, affording sufficient light upon working areas while eliminating a great deal of eye strain due to glare. Besides these units, the line includes a great variety of devices and lenses by which lighting engineers can control the direction of light prismatically. Holophane Co., Inc., 342 Madison Ave., New York, N. Y.

Exhibition of Glass Units

The Alumiline Corp. in conjunction with the Libbey Owens Ford Glass Company is sponsoring a traveling exhibit demonstrating various applications which are possible with glass. These exhibits are designed to show, with the help of local glass firms, the steps that are required for the installation, handling and processing of glass. The exhibit also shows design applications that

Travelling exhibits shows types of aluminum shapes and their design applications

are possible with standard *Alumiline* forms. Designs of store windows are exhibited. The exhibit remains in one town approximately three days. For additional information write to Mr. August Kahn, The Alumiline Corp., 1540 Covert St., Brooklyn 27, N. Y.

(*Continued on page 194*)

VAMPCO ALL-ALUMINUM WINDOWS

Another LIFETIME "VAMPCO" Installation

THE NEW VIRGIN ISLE HOTEL

Specified FOR ENDURANCE UNDER EXTREME CLIMATIC CONDITIONS

Vampco Aluminum Custom Casement Windows and Doors will assure many added years of trouble-free service in this beautiful modern hotel.

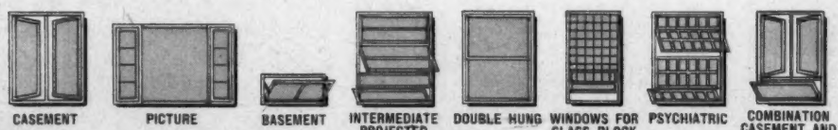
Installation cost was minimized. Factory-attached hardware eliminated fitting time on the job. Even more important, Vampco aluminum will withstand indefinitely the extreme corrosion of a salt-filled tropic atmosphere. Costly painting is eliminated forever.

Extra-heavy ventilator sections assure weathertight fit and smooth action for life. Window maintenance falls to zero when you specify Vampco!

Write our engineering department for complete information on Custom Casements and other aluminum window types in the Vampco line.

LOOK TO VAMPCO

FOR ALL THESE WINDOW TYPES — IN LIFETIME ALUMINUM



VALLEY METAL PRODUCTS COMPANY - PLAINWELL, MICHIGAN

PRODUCTS
(*Continued from page 192*)

Masonry Water Repellents

• *Monsoon*, a silicone resin, transparent water repellent for use on new and old concrete, cement, brick, mortar, stucco, asbestos, etc., is said to penetrate deeply to create a water-repellent zone. A single-coat repellent, it is claimed to be free flowing and suitable for both interior and exterior masonry. Appearance and porosity of masonry surfaces are claimed not to be altered by the repellent, which is said to effect long protection from recurring capillary moisture seepage. Application may be at any temperature and climate. *Monsoon* treated surfaces are reputedly self-cleansing; before treatment, no surface preparation is said required, the only stipulation being that the surface must be dry. Application may be by brush or spraygun. Drying is said to take approximately 4 hrs. State Chemical Corp., 1265 Broadway, New York 1, N. Y.

FACTS FOR ARCHITECTS
ABOUT "CONSTRUCTION BY ADHESION"*

HERE ARE NEW METHODS WHICH MEAN SUBSTANTIAL SAVINGS IN LABOR AND MATERIALS FOR MODERN CONSTRUCTION in both *NEW* building and *MODERNIZATION*

MIRACLE ADHESIVES CORP.
214 E. 53 St. • New York 22, N. Y.
"CONSTRUCTION BY ADHESION"
*Reg. U.S. Pat. Off.

WRITE TODAY FOR RECOMMENDED SPECIFICATIONS ON
1. Setting Genuine Clay Tile. 2. Insulating Ducts. 3. Insulating walls and ceilings either by Direct Adhesion or in conjunction with Surface Anchors. 4. Installing floor runners; bonding furring strips.

1.

Today it is normal procedure to install clay tile in hotel bathrooms without losing a night's revenue. This illustration shows one of the 144 rooms in the White Plaza Hotel, Dallas, Texas, in which MIRACLE ADHESIVE was used to do the job from the time the guest left his room in the morning until he returned that afternoon.

2.

Plaster applied over wire and cork which has been attached to aluminum ducts using MIRACLE ADHESIVE and MIRACLE SPINDLE ANCHORS at John Hancock Mutual Life Insurance Co. Building, Boston, Mass. ARCHITECT, Cram and Ferguson. BUILDER, Turner Construction Co.

3.

FIBERGLAS insulation, Type PF-613, 2" thick — bonded to concrete ceiling using MIRACLE PRONGED ANCHORS at Radio City Studio 6B, New York, N. Y. CONTRACTOR, William J. Scully, Inc., New York, N. Y.

4.

WOOD RUNNERS installed on concrete floors with MIRACLE ADHESIVE and MIRACLE ANCHOR NAILS to support 2" solid partitions. Washington Circle Apartments, Washington, D.C. GENERAL CONTRACTOR, Charles H. Tompkins Company.

VISIT MIRACLE EXHIBIT AT ARCHITECTS SAMPLES CORP. 101 PARK AVE., NEW YORK CITY

• Another transparent waterproofing, also made with silicone, is called *Siliphane*. The product is said to be easily brushed or sprayed on exterior, above-grade masonry walls of all types, and to cause masonry which normally absorbs water to actively repel it. Siliphane is claimed not to be a surface film, or to close the pores of the masonry, but to penetrate into the masonry. The product reportedly reduces efflorescence to a minimum, and will not cause any color blush, bloom, etc., of the surface. It may be applied in temperatures as low as 15 degrees. Prima Products, Inc., 10 E. 40th St., New York 16, N. Y.

High Velocity Air Conditioning

The use of high velocity air conditioning made possible the installation of *usAIRco* air conditioning units ranging in capacity from 4,000 CFM to 24,000 CFM in the B. Altman & Co. retail store in New York without disturbing the daily business procedure. The small ducts that can be used in this type of air

Duct enclosure allows decorative treatment (above). Typical floor duct work (below)

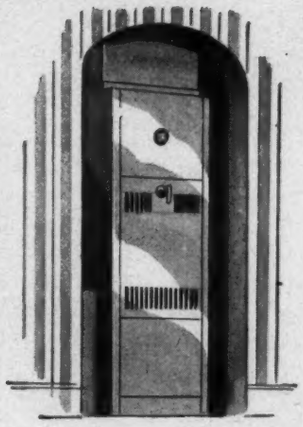
conditioning allowed the use of existing unused dumbwaiter shafts for chases. The use of waste space and the careful location of units allowed this system to be installed without altering the architectural character of the building's interior.

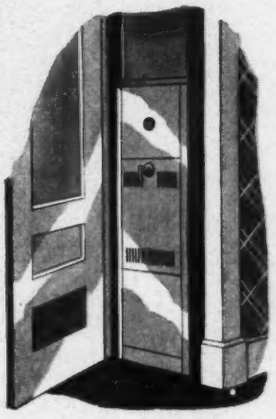
The first floor is completely free of duct work due to careful use of waste space and basement space. The remain-

(*Continued on page 198*)

SU-30-G
85,000 BTU
input per hour

SU-35-G
110,000 BTU
input per hour





AGA Approved!

for alcove and closet installation

Gas-fired RICHMOND winter air conditioner

Where space is tight, use the Richmond SU-G, gas-fired, vertical winter air conditioner . . . ideal for the small ranch-type installation.

Now the SU-G is approved by the AGA for alcove and closet installation. When ordered for this type of installation our standard unit is especially adapted to meet the rigid AGA requirements. When ordering the Richmond SU-G for closet or alcove use, be sure to state that fact.

Remember that the SU-G can be furnished with a bottom filter rack as optional equipment at no extra charge. And remember these special features: Remote pilot igniter (standard equipment) for convenience and safety in lighting burner from outside of furnace... burner and controls quickly and easily removable as mounting plate is held securely in place with four nuts. When space and economy count . . . count on the Richmond SU-G.

RICHMOND RR PLUMBING & HEATING

Richmond Radiator Company AR/9
19 East 47th Street, New York 17, N. Y.

Please send me full information on Richmond SU-G gas-fired winter air conditioners.

Name.....

Company.....

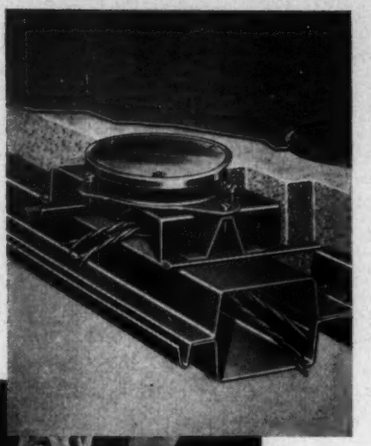
Address.....

Add New Flexibility

WITH GENERAL ELECTRIC Q-FLOOR WIRING

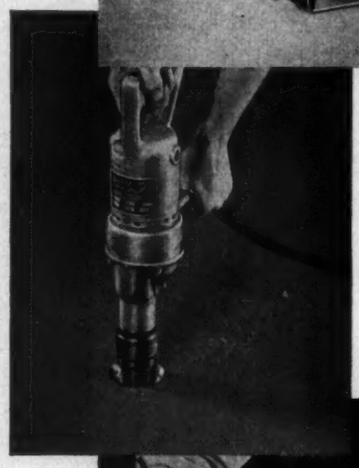
SPEED CONSTRUCTION by laying electrical raceways as the floor is laid. Steel cells spaced on six-inch centers are the raceways which carry General Electric Q-Floor wiring to any portion of the floor area. Raceways are easily accessible under the finished floor for changes in wiring—at any time during the life of the building. And Q-Floor is a complete floor surface, it makes a safe working platform for all trades.

to Electrical Systems



SPEED WIRING

and rewiring with a G-E Q-Floor wiring system. Header ducts, laid at right angles across all cells, provide ample distribution from load centers. Handholes, finished with the floor covering, are located over the particular cells they feed. Here's the system that gives building operators the opportunity for full and flexible use of electrical equipment.



"DON'T DISTURB"

is the cry after tenants have moved in. With G-E Q-Floor wiring, electrical facilities can be changed without annoying the occupants, without extensive furniture moving. To add an outlet, the electrician merely makes a small opening in the floor and drills through to the Q-Floor cell. Wires can be pulled easily from handhole opening at junction of header duct and raceway cell.

OUTLETS ANYWHERE,

whenever they're needed. Adding circuits or rewiring involves no ripped-up floors, no groping. Existing circuits are easily separated for identification. An adjustable floor tap, with extension, makes outlet installation a matter of only a few minutes. In construction and maintenance, you'll like the workability of General Electric Q-Floor wiring—the system that keeps buildings electrically young.

FOR A FREE BOOKLET on G-E Q-Floor wiring and complete data, contact the underfloor specialist at your local G-E office or contact your local H. H. Robertson Company office. Or, write Section C56-95, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

A.W. ALGRIP ABRASIVE
ROLLED STEEL FLOOR PLATE

This revolutionary ABRASIVE Floor Plate makes it possible for you to give your workmen the best non-slip protection against costly falling accidents.

A. W. ALGRIP is made by rolling abrasive grain, the same type used in grinding wheels, uniformly as an integral part of the upper portion of steel plate. Result: A floor plate that's non-slip even on steep inclines. ALGRIP requires no maintenance attention and wear exposes new abrasive particles so it keeps its gripping qualities. Wet or dry ALGRIP is non-slip. It's easy to keep clean and can be cut and installed overnight.

Architects, engineers, designers and safety engineers are specifying A. W. ALGRIP for industrial and commercial applications. Get complete information about this revolutionary ABRASIVE Floor Plate now. Write for booklet B-20

THERE'S NEVER A SLIP
ON A. W. ALGRIP.

ALGRIP installed in elevators and on sills keeps passengers safe from slipping accidents.

ALGRIP is ideal for installation on engine and boiler room floors.

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.
125 YEARS OF IRON AND STEEL MAKING EXPERIENCE

Gentlemen:
Please send me your 8-page information-packed booklet B-20.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

Other Products: PERMACLAD Stainless Clad Steel • A.W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

*17% of the 222 occupational injuries which occur every hour are due to falls. Source: National Safety Council's 1949 edition of Accident Facts.

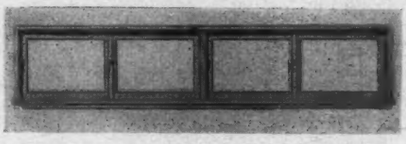
PRODUCTS

(*Continued from page 194*)

ing floors are conditioned by units that are suspended from the ceiling in acoustically treated enclosures. These enclosures are oversized to allow a maintenance man easy access to the unit. United States Air Conditioning Corp, 3300 Como Ave, S. E., Minneapolis 14, Minn.

Gliding Windows

Intended for use as ribbon windows or as transom units, a new size has been added to the Anderson line of *Gliding Window Units*. The sash height of this



Designed for modular openings, low units adapt readily to ribbon window designs

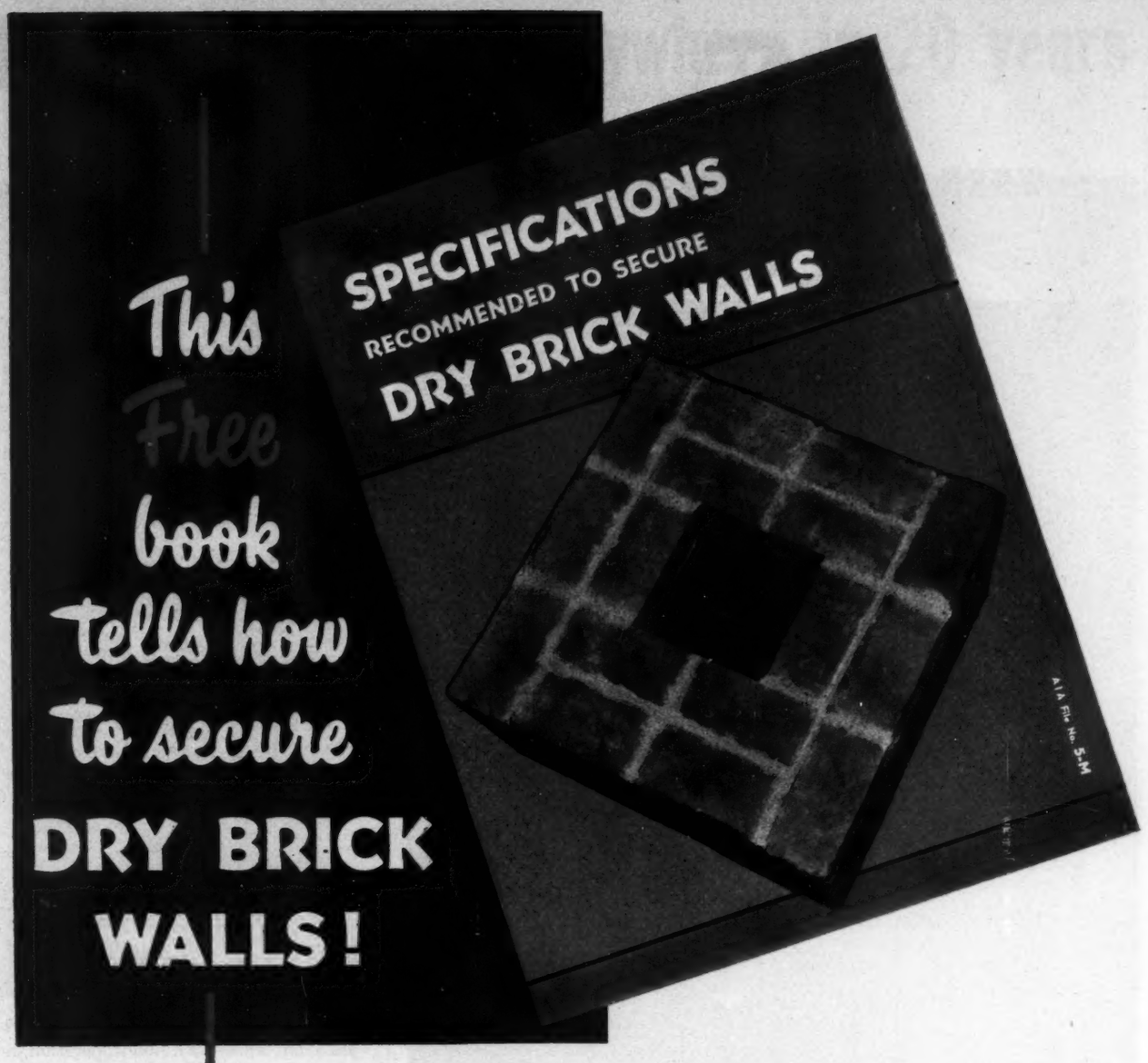
new unit is just under 2 ft; it is designed to fit into a modular opening 2 ft 4 in. high, and comes in three modular widths, 3 ft-8 in., 4 ft-8 in., and 5 ft-8 in. Anderson Corp. Bayport, Minn.

Exit Light

An automatic, emergency exit light, the *Light Warden* is designed to assist in the safe evacuation of premises should the regular source of current fail. The unit operates under normal conditions on standard current, and is also furnished with batteries to supply stand-by power. The emergency feature is claimed to furnish a bright downward beam to illuminate the floor area. According to the manufacturer, the unit will give approximately 8 hours of emergency light from a 7½ volt standard dry battery.

The standard light used is 7 watts, 110 volts, a-c. Finished in grey hammertone, the unit is 14¾ in. long, 8½ in. high, 4½ in. deep and weighs 5½ lb. Exit lettering is 5 in. high on frosted plastic in red or green. Electric Cord Co., 30 Church St., New York 7, N. Y.

(*Continued on page 200*)



Now the Louisville Cement Company has published another outstanding booklet, entitled *Specifications Recommended to Secure Dry Brick Walls.* This important pamphlet briefly interprets the exhaustive research carried on by many national authorities during the past twenty years. In 16 clearly-illustrated pages it describes the causes of leaky brick walls, explains how these causes may be avoided, and offers detailed specifications for the types of mortar, brick and workmanship required to secure dry brick walls.

This booklet is a sequel to *Type of Workmanship Recommended to Secure Dry Brick Walls,* a pamphlet which has been accepted by leading authorities as one of the most valuable works ever published on its subject. It is a 1951 Award Winner in the Class I competition sponsored jointly by the American Institute of Architects and the Producers' Council. It is used as a textbook in 232 colleges, high schools and trade schools.

Send for your free copy of this highly informative and interesting booklet, *today.* The coupon is for your convenience.

Louisville Cement Co., Inc.
Dept. 3
Second and Walnut Sts., Louisville 2, Kentucky

Gentlemen: Without cost or obligation, please send me a copy of *Specifications Recommended to Secure Dry Brick Walls.*

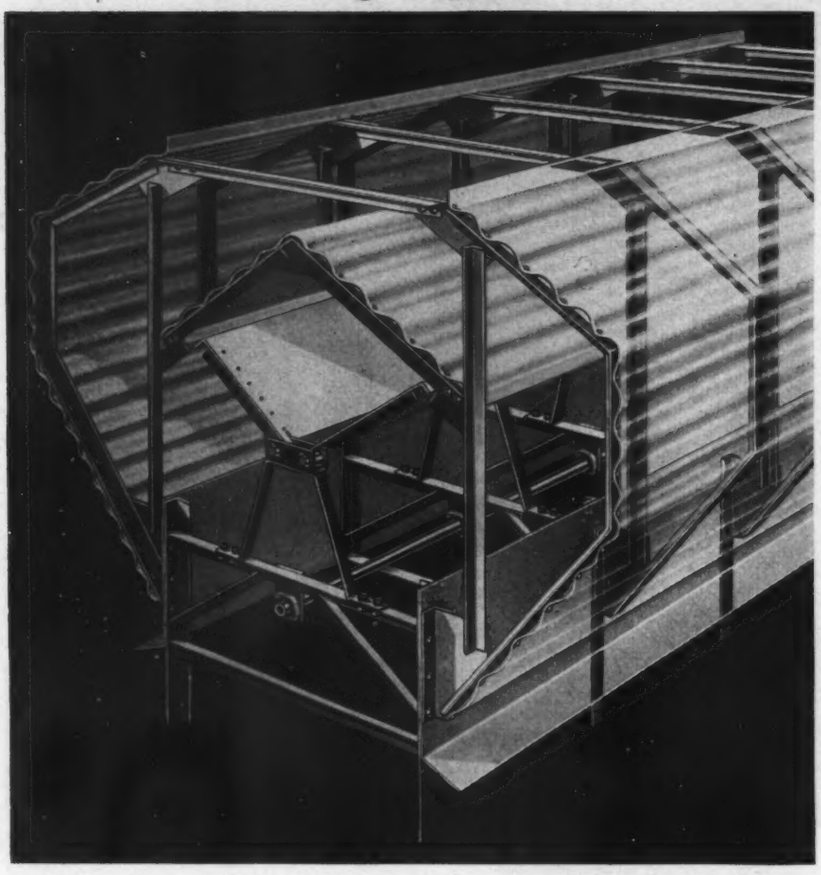
Name_____

Firm_____

Street_____

City_____

WHEN AIR IS BAD



REMOVE FUMES, SMOKE AND HEAT WITH BURT MONOVENT

The Burt Monovent Continuous Ridge Ventilator is particularly efficient in heavy industry — for steel mills, foundries, forge shops, etc.

Installed as a continuous unit the entire length of the building, Burt Monovent converts the roof line to a giant valve that exhausts bad air rapidly from the whole structure. Standard production sizes from 4" to 96" widths handle almost any application.

The Monovent is remarkably efficient. It can be installed on any type roof. And, its simplicity and heavy construction assure long, trouble-free life with almost no maintenance. See Sweet's for further details or write for Bulletin S.P.V.6.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South Street • Akron 11, Ohio

PRODUCTS

(*Continued from page 198*)

Ventilating Fan

The *Ilg Built-In Kitchen Ventilator, Model LC10,* features the inclusion of telescoping steel sleeves to facilitate use with various thicknesses of thin-wall or standard wall construction. Maintenance of the 500 CFM unit is said to be simplified by the special mounting of the grill and the fan and motor assembly — each is held in place by a single thumb screw, and is easily removed. Among the standard features cited in this model are a fan wheel with quiet operation, a totally enclosed motor, and a weatherproof door to protect the unit from the elements when it is not in use. Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill.

Kitchen fan's adjustable sleeve aids ease of installation

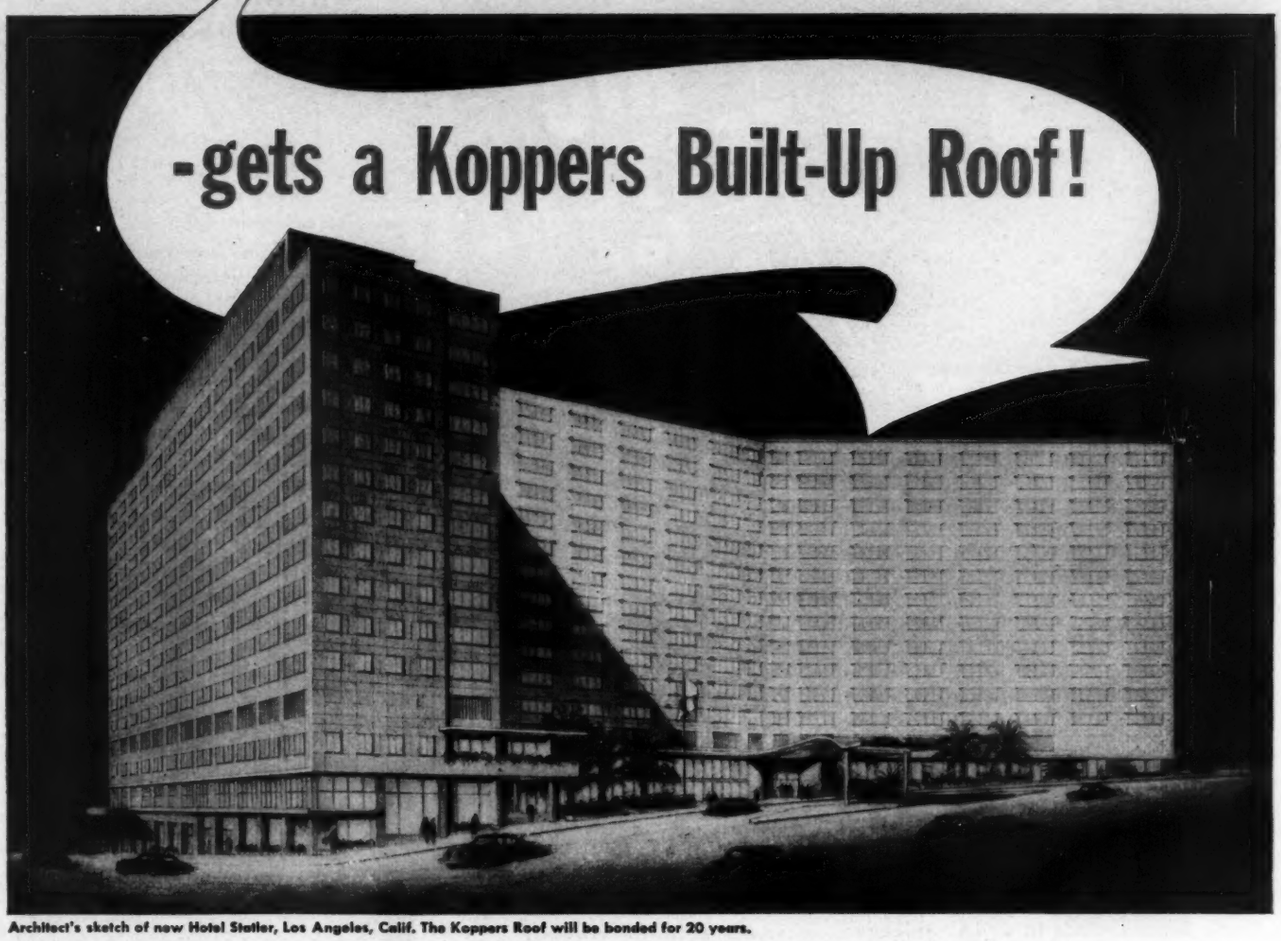
Wardrobe Door For Schools

The *Barcol Wardrobedoor,* designed for schoolroom installation, features vertical operation and a surface that can double as chalk board. The door is said to save up to 18 in. of floor space, and not to interfere with clothing. The doors are divided into two horizontal sections to reduce overhead space required, and operate by means of ball bearing rollers in vertical steel tracks. The supporting mechanism, it is claimed, is designed with a 20 to 1 minimum safety factor.

Standard doors are unpainted fir veneer; doors with hardwood veneer are

(*Continued on page 202*)

Biggest hotel built anywhere in 20 years



Architect's sketch of new Hotel Statler, Los Angeles, Calif. The Koppers Roof will be bonded for 20 years.

Architects and Engineers: *Holabird & Root & Burgee, Chicago, Ill.* Associate Architect: *William B. Tabler.*

General Contractor: *Robert E. McKee, General Contractor, Inc., Glendale, Calif.*

Roofing Contractor: *Associated Roof Co., Los Angeles, Calif.*

● With 1,275 guest rooms, the new 13-story Hotel Statler, now under construction in downtown Los Angeles, will be the biggest hotel built *anywhere* in the past 20 years. Truly a showplace, too, with promenade decks, tropical planting, sun decks, airing porches, and a swimming pool in the patio.

Built-up roofing will protect this ultra-modern hotel and Koppers Roofing Materials are being used exclusively. A wise choice, because roofs built up with Koppers Coal Tar Pitch and Approved Tarred Felt resist prolonged contact with water *without deteriorating,* and are actually self-sealing if small breaks occur.

As for long life, a Koppers Bond will *guarantee* the performance of the roofing materials on this roof for 20 years. Your roof can have the same guarantee—for 10, 15, or 20 years if it is applied by an Approved Roofer according to Koppers specifications.

Koppers Roofing Materials are available throughout the United States, including the West Coast. Specify these materials, and your projects will have the best in built-up roofing. Get in touch with us for full information and specifications.

KOPPERS

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

DISTRICT OFFICES: BOSTON, CHICAGO, LOS ANGELES, NEW YORK, PITTSBURGH AND WOODWARD, ALABAMA

• SPECIFY KOPPERS FOR LONG-LIFE ROOFING •

Warmth and Lasting Beauty of Parkay Hardwood Floors Within Reach of Every Building Budget

Give them floors that they can point to with pride—today or twenty years from now. Specify Parkay—the only genuine hardwood flooring in 3/16" thickness. It saves material without sacrificing wearing surface—permits use with other resilient floor materials without changing floor levels.

Parkay comes to the job ready-finished—an important time-and-money-saving feature. It is applied quickly with special Parkay Adhesive over any sound subsurface—cement or wood. Final result—beautiful, enduring hardwood floors that cost little or no more than ordinary strip finished on the job.

Parkay flooring made of choice American Oak, is offered in two styles—9" x 9" Tiles and 9"-wide Broadboard in random lengths. Both styles may be used for attractive wall paneling. Also available—Parkay Haddon Hall Pattern (basketweave) Flooring. For complete details see Sweet's Architectural File or write direct for free literature and sample. Parkay, Incorporated, Louisville 9, Ky.

PARKAY
READY-FINISHED HARDWOOD FOR FLOORS AND WALLS

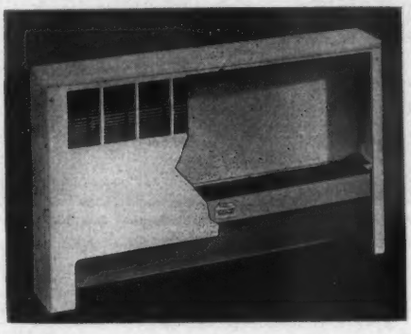
PRODUCTS

(*Continued from page 200*)

also available. They can be equipped with chalk board or bulletin board cork surfaces. Doors with electric operators are also available. Standard doors are 10, 12, or 15 ft wide and 6 ft high. Barber-Colman Co., Rockford, Ill.

Convector Radiator

Fedders Type F Convector-Radiators, which can be used with steam or hot water systems offer ease of maintenance and rapid arrival at a uniform temperature. Air enters the unit through an archway at the bottom and is directed into the room by louvered grill at the top of the unit. The unit is available with or without dampers. The heating element is constructed of copper tubes



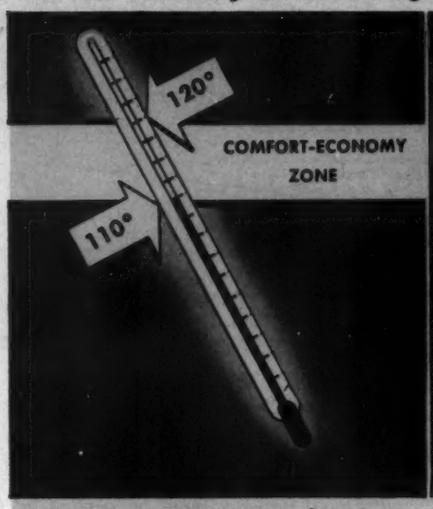
Simple design of convector-radiator gives uniform room temperature

and aluminum fins which, the manufacturer claims, assures rapid response to thermostatic control.

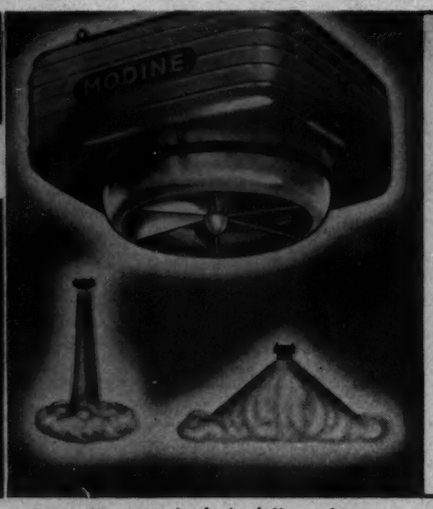
The back of the unit is constructed of 20 ga steel while the top and front is of 18 ga steel. The cabinet is primed with an oven baked primer coat. Cabinets are provided in four inch increments from 20 in. to 48 in. and in 56 inch and 64 inch lengths, heights available are 20, 24, and 32 in., while available depths are 6, 8, and 10 in. The units may be recessed up to 1¼ in. from the face of the unit. Fedders-Quigan Corp, 57 Tonawanda, Buffalo 7, N. Y.

(*Continued on page 204*)

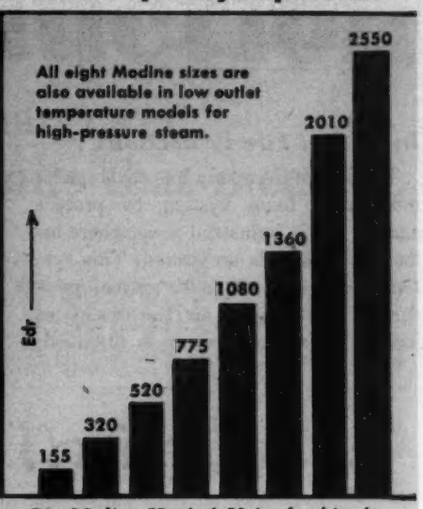
Three of many outstanding features that account for the Modine quality reputation



Discharge air temperatures of 110° to 120° F. are correctly related to air-velocities — assure perfect heating comfort plus lower fuel costs.



Versatile control of air delivery is provided by Cone-Jet, Truncone or Louvre deflectors. You can choose the *right* one for your job at no extra cost.



Big Modine Vertical Units for big defense plants eliminate expensive ductwork, retain the flexibility necessary for subsequent changes in plant layout.

COMPARE

..it all adds up to this..Modine is tops in unit heater values

Advanced engineering . . . superb styling . . . highest grade materials and craftsmanship — all quality hallmarks of Modine Unit Heaters. They're your assurance of *heating performance at its best* — high fuel economy . . . years of trouble-free service. Built to a standard of excellence — Modine is the choice for unfailing dependability, lower operating and maintenance costs. So whether you need Vertical Delivery models (illustrated), Horizontals or Power-Throws — *compare first!* Modine Mfg. Co., 1510 Dekoven Ave., Racine, Wis.

U-1112

Vertical delivery model shown here. Also available in Horizontal and Power-Throw types.

Write for Bulletin 149-A, "Modine Unit Heating." Or contact your Modine representative listed in the classified section of your phone book.

Engineers rate Modine the standard of excellence

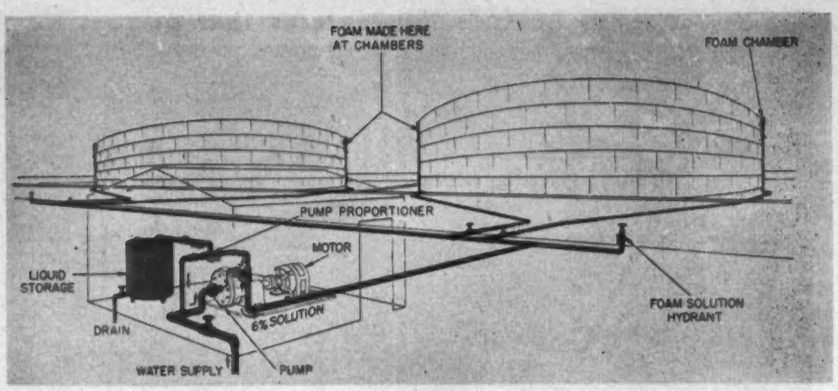
Modine UNIT HEATERS

PRODUCTS

(*Continued from page 202*)

Industrial Fire Protection

The Kidde Company has developed a mechanical foam system to protect against fire in industrial areas where inflammable liquids are stored. This system requires water under normal pressure, foam liquid, and air. In cases where insufficient water pressure is obtained, additional pressure must be applied by pumps. The solution is processed in the following pattern: water under average pressure creates a vacuum which draws foam liquid into the system from storage tanks, further along air is added in the same manner, completing the mixture. The liquid may then be piped to hydrants and directed against the fire by hose or fixed units. Walter Kidde Co., 675 Main St., Belleville 9, N. J.



Mechanical foam system gives fire protection to such industrial areas as above

Self-Contained Air Conditioner

Available in three capacities (3, 5, and 7½ ton), this unit provides humidity control, warm and cool air. The unit requires only one electrical connection and three piping connections. A two-knob control panel allows the owner to adjust the temperature for heating or cooling, or to operate the fan alone. The unit is insulated with glass fiber against sound and temperature. The following dimen-

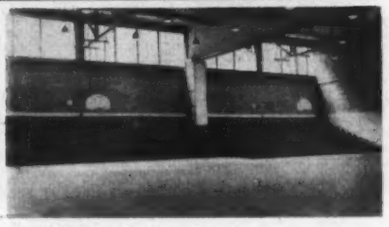
(*Continued on page 206*)

Packaged air conditioner heats, cools, ventilates, provides humidity control

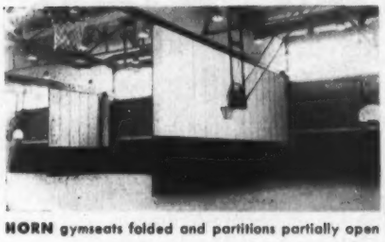
MANKATO HIGH SCHOOL
J. E. Anderson, *Supt.*
Mankato, Minnesota

PASS AND ROCKEY,
Architects
Mankato, Minnesota
HAGSTROM CONST. CO
General Contractor

HORN FOLDING PARTITIONS AND **HORN** FOLDING GYMSEATS INSURE MAXIMUM GYM SPACE

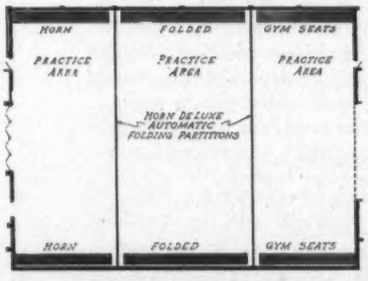


HORN partitions closed and seats extended

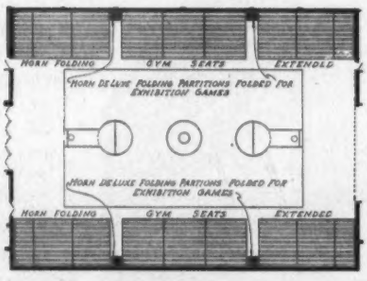


HORN gymseats folded and partitions partially open

Note compactness of **HORN** equipment



HORN DELUXE AUTOMATIC FOLDING PARTITIONS with Pass Doors offer three independent practice gyms. **HORN FOLDING GYMSEATS** with their smooth folded surface insure safety and maximum space.



FOR THE BIG GAME . . . **HORN** Folding Gymseats with their "Chair Comfort" dimensions are simple to operate and maintain and offer maximum seating capacity. For the finest, always specify **HORN.**

There is a **HORN** representative in your locality. For complete details, write Dept. E. There is no obligation.

HORN BROTHERS CO.
Division of Horn Industries
Fort Dodge, Iowa *Established 1909*

Defense Production

makes more important than ever the Specification of Lighting Units that meet

RLM High Quality Standards

for Efficiency, Durability and Uniformity

Vital to defense and essential civilian production, are lighting units that *can be depended upon* to provide the right quantity and quality of light, economically, dependably and with a minimum of servicing need and maintenance cost.

Defense production demands lighting equipment with the ability to *sustain its rated light output* efficiency over hundreds of cleanings so that the proper high illumination levels may be maintained. It demands the *durability* found so essential to industrial lighting and the avoidance of production interruptions and inefficiency due to abnormal wear, distortion or breakdown. It demands fullest *protection from glare* through proper diffusion and shielding.

All of these, and many other conditions for proper lighting of defense plants can be met through the specification of RLM-Labeled Lighting Units. All units bearing the RLM Label are warranted by Electrical Testing Laboratories to conform to the minimum standards established by the RLM Standards Institute for efficiency, durability and uniform quality.

FREE RLM BOOKLETS containing complete specifications for all RLM-Certified Industrial Fluorescent and Incandescent Lighting Units and the names of all manufacturers of RLM-Labeled Units may be obtained by writing: RLM STANDARDS INSTITUTE INC., Suite 827, 326 West Madison Street, Chicago 6, Illinois.

Specification of RLM-Labeled Units Assures Conformance to ALL these Essentials of Defense Production Lighting

DIFFUSION WITH HIGH REFLECTION FACTOR
RLM Porcelain-Enameled Steel Reflectors must have a mean reflection factor of 82% . . . an assurance of more light for the money. Porcelain enamel reflecting surfaces *diffuse* light from the lamp and help provide proper *quality* of illumination.

TOP QUALITY PORCELAIN-ENAMELED REFLECTORS
RLM Reflectors are built of not less than .032" reflector steel covered with .025" fused on porcelain enamel that will not chip, corrode or deteriorate under industrial operating conditions.

APPROVED REFLECTOR DESIGN
Reflector design of RLM Units conforms to specifications embodying approved practices of illuminating engineering.

HIGH POWER FACTOR BALLASTS
RLM Standards specify the use of certified ballasts which last longer, because they are designed to prevent excessively high temperature operation.

UNIFORM QUALITY
RLM Standards insist on the maintenance of uniform quality as to materials and construction, thus assuring the buyer of uniform lighting performance from each unit installed.

RLM STANDARDS INSTITUTE
INCORPORATED

(The letters RLM stand for Reflector and Lighting Equipment Manufacturers)

PRODUCTS
(*Continued from page 204*)

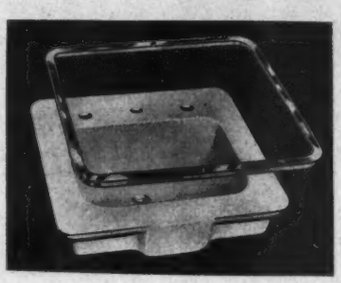
sions are given by the manufacturer: 3 ton unit, 20½ by 37½ in.; 5 ton unit, 24½ by 45½ in.; 7½ ton unit, 28½ by 60½ in. The Trane Company, La Crosse, Wis.

Rock Wool Insulation

The National Gypsum Company's *Gold Bond* rock wool insulating batts and blankets are now offered completely enclosed by a specially treated paper enclosure. This enclosure assists the application of this product since it reduces the damage to the batt and allows faster application. Due to the strong bond between the enclosure and the insulation, it may be cut and fitted on the job with little danger of sagging or slipping, the manufacturer states. The fully enclosed batts are designed with a vapor barrier and nailing flange on one side and a breather-cover on the remaining three sides. The enclosed batts are available in all standard sizes and thicknesses. The National Gypsum Co., 325 Delaware Ave., Buffalo 2, N. Y.

Counter Lavatory

Designed for easy installation, the *Eljer Priscilla Counter Lavatory* features a one-piece metal rim that compensates for differences between the lavatory shape and that of the opening provided



Lavatory unit is designed for built-ins

for it in the counter. The lavatory has a flat rim, measures 20 by 18 in., and comes in five colors. It is punched to take standard Eljer fixtures. Eljer Co., Ford City, Pa.

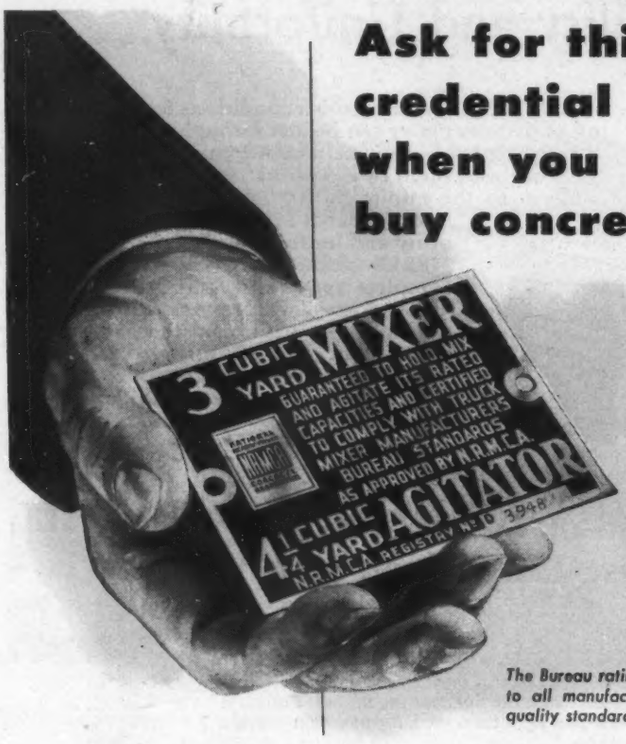
Movable Office Partitions

Koroweld, a new panel construction, incorporates a non-metallic composition board similar in appearance to the firm's movable steel partitions. The partitions are 3 in. thick, with a facing panel 3/16 in. thick, bonded by plastic to an impregnated-paper honey-comb core. Steel

Movable partitions use non-metalic panels

is used for posts, base, cornice, and wiring chases. The panels will withstand 70 lbs per sq in. pushing pressure, and the panels are sealed against moisture. Edges are covered with metal to prevent chipping and cracking. E. F. Hauserman Co., 6800 Grant Ave, Cleveland 5, Ohio.

(*Continued on page 208*)


3 CUBIC YARD MIXER
GUARANTEED TO HOLD MIX AND AGITATE ITS RATED CAPACITIES AND CERTIFIED TO COMPLY WITH TRUCK MIXER MANUFACTURERS BUREAU STANDARDS AS APPROVED BY N.R.M.C.A.
4 CUBIC YARD AGITATOR
N.R.M.C.A. REGISTRY NO. 3948

Ask for this credential when you buy concrete

The Bureau rating plate is available to all manufacturers who meet its quality standards and requirements.

However sympathetic you may be to the profit motive, you don't want *your* jobs served by truck mixers that are too small to properly mix a standard batch.

Deficiencies in drum cubics cannot be measured by the eye. *But you can instantly detect the absence of this rating plate.*

This rating plate on a truck mixer guarantees that it has the proper design and *full amount of free mixing space* needed to produce quality concrete. Look for it whenever you approve or buy concrete ready-mixed.

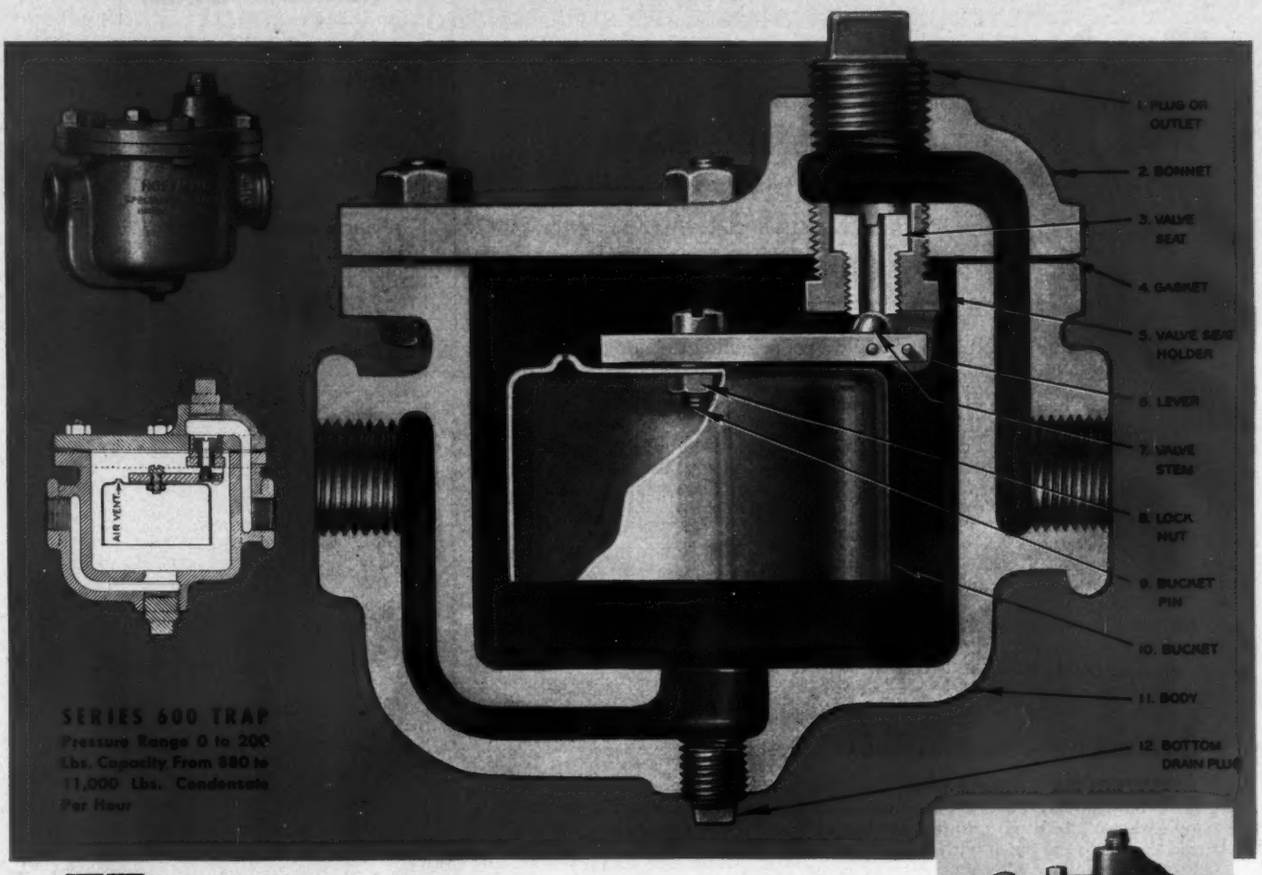
Affiliated with The National Ready Mixed Concrete Association

Truck Mixer Manufacturers Bureau

BLAW-KNOX DIVISION, Pittsburgh, Pa.
CHAIN BELT COMPANY, Milwaukee, Wis.
CONCRETE TRANSPORT MIXER CO., St. Louis, Mo.
THE JAEGER MACHINE COMPANY, Columbus, Ohio
THE T. L. SMITH COMPANY, Milwaukee, Wis.
WORTHINGTON PUMP & MACHINERY CORP., Dunellen, N. J.

NOTED FOR *Efficiency...*

This simple mechanism is *Easy* to install *Easy* to service



HOFFMAN

INVERTED BUCKET TRAPS

FOR STEAM SERVICE

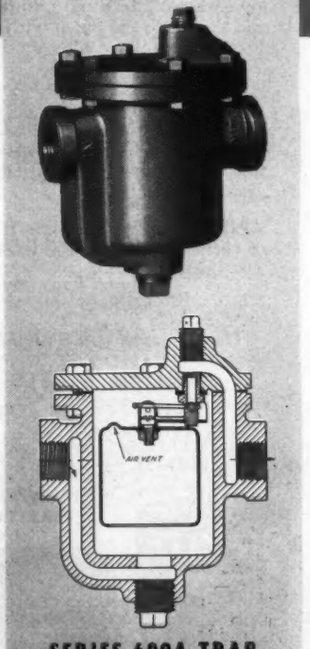
Hoffman Bucket Traps operate intermittently and are particularly applicable to draining condensate and air from steam lines or equipment where large quantities of air and condensate must be discharged. They are easily inspected, cleaned and serviced by merely removing the cover assembly.

Straight-through pipe connections permit close-to-floor installation.

All working parts are connected to the bonnet and are removable with it for service without breaking pipe connections.

These are features of design appreciated by the maintenance man in saving man-hours when man-power is costly and scarce.

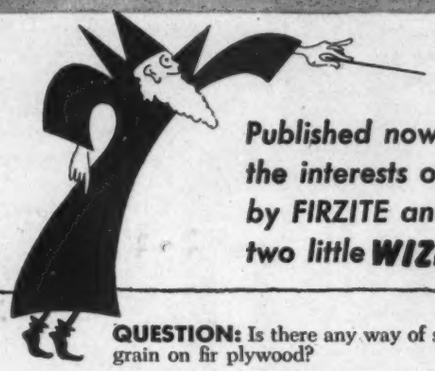
Hoffman Bucket Traps are adjustable to a wide choice of pressures—simply by changing valve seats. Send today for full information, no obligation.



HOFFMAN SPECIALTY CO., Dept. AR-9, 1001 York St., Indianapolis 7, Ind.

Makers of Valves, Traps, Vacuum and Condensation Pumps, Forced Hot Water Heating Systems.
Sold by leading wholesalers of Heating and Plumbing Equipment.

The Architect's Question Box



Published now and then in the interests of wood finishing, by FIRZITE and SATINLAC, those two little WIZARDS WITH WOOD.

QUESTION: Is there any way of subduing the unsightly wild grain on fir plywood?

ANSWER: The cause of this wild grain is the way stains "take" so differently on the soft spring and hard summer growths. You can lay this wild grain by applying a coat of FIRZITE as a pre-sealer. FIRZITE penetrates deeply and in effect brings the soft growth to about the same density as the hard growth, thus "taming" the wild grain. Then, stain and finish as desired.

QUESTION: Can Satinlac be applied only to panelling?

ANSWER: Indeed not. It is widely used on trim, rails, doors—to bring out and preserve the natural grain and beauty of the wood. It provides a light natural protective finish in accord with today's decorative trends.

QUESTION: How would you finish Weldtex siding?

ANSWER: For a natural effect, use Clear Firzite followed by Spar Varnish. For woodsy effects with contrasted grooves—use Clear Firzite followed by White Firzite, tinted with colors-in-oil if color tones are desired; and complete the finish with Spar Varnish. For painted work, apply White Firzite and follow with good exterior house paints.

QUESTION: Very often, when I finish a panelling job with a conventional coat of shellac followed by several coats of varnish, I get a heavy "built-up" finish that does not give the desired effect. Is there any way to get around this?

ANSWER: Use Satinlac. It definitely avoids that heavy "built-up" look of varnish and gives the wood full protection.

If you have any problems in wood finishing, let us help you. Write also for specification sheet.

May we send you a blond Birch panel showing SATINLAC finish?

UNITED STATES PLYWOOD CORPORATION
Dept. 309, 55 West 44th Street, New York, N.Y.

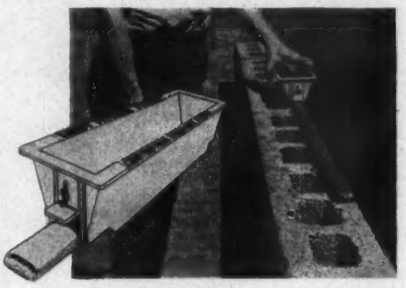
Architectural Engineering

PRODUCTS

(*Continued from page 206*)

Mortar Plane

The *Kakest Mortar Plane* is claimed to afford considerable savings in time, labor and materials, as compared with the conventional trowel method of applying mortar. The plane is made of aluminum, and weighs 1½ lbs. A gate



New mortar-laying device speeds erection of hollow masonry block

at the base permits variation of the thickness of mortar flow. The manufacturer estimates that mortar for a six-foot-long joint of average thickness can be laid with one filling. Kakest Co., Curwensville, Pa.

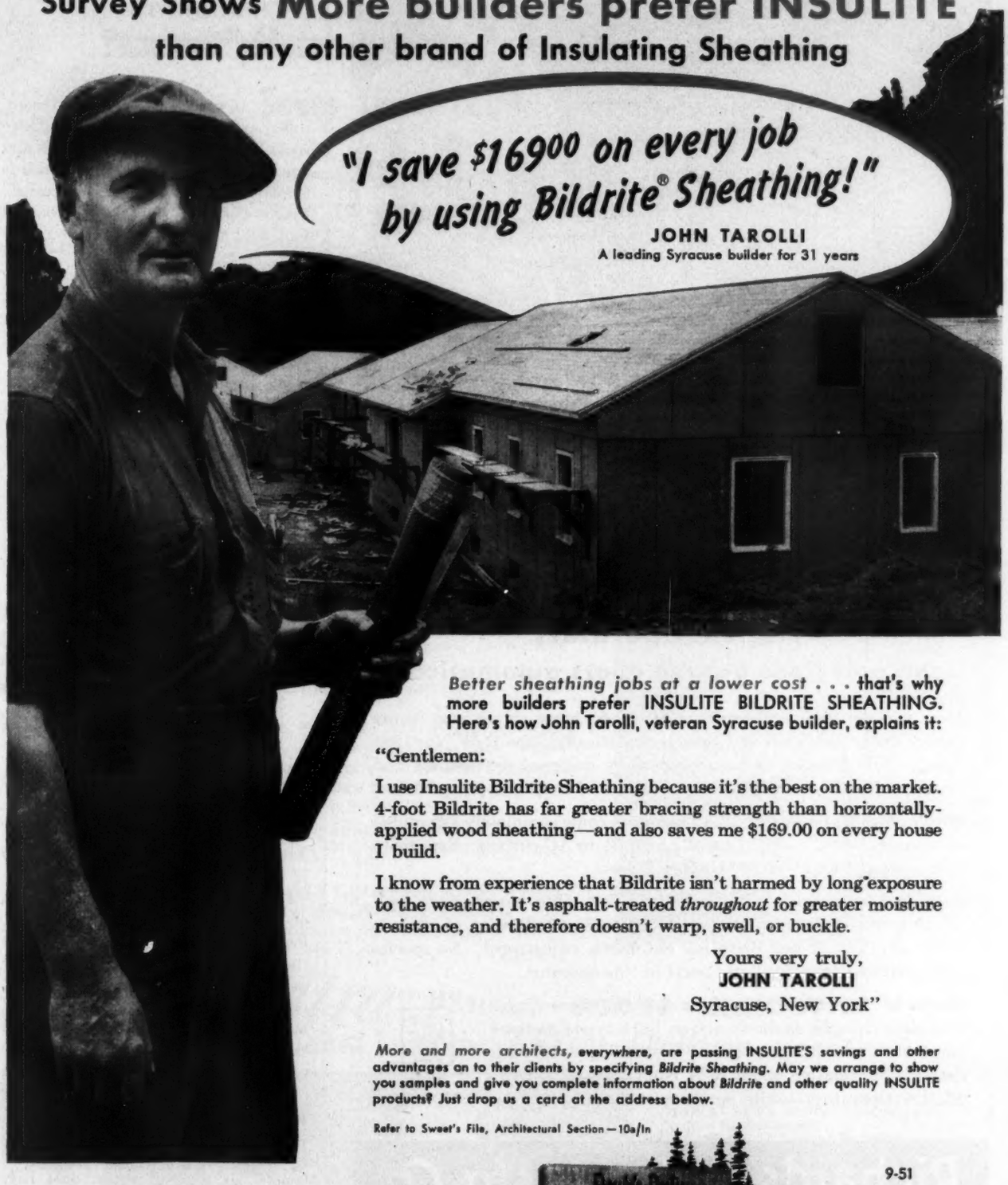
Air-Dry Plastic Finish

Described as resistant to marring and surface wear, *Fenolic 101*, formulated to cure at room temperature by chemical action, provides a clear air-dry plastic finish. This finish resists, the manufacturer states, alcohol and liquor as well as most solvents and cleansers. The cured film is non-inflammable and resists cigarette burns. It can be applied to light wood without noticeable darkening. It is strongly emphasized that it must be used on new un-coated woods or woods that have had the finish fully removed. If staining is desired, only acid resistant, non-grain raising stains should be used. It dries to a high gloss finish and can be rubbed to a desired finish. The manufacturer further specifies that the finish must be applied at a minimum temperature of 75–80 deg F. It dries tack-free in 30 minutes, for best results sanding is suggested after a 24–48 hour curing

(*Continued on page 210*)

INSULITE® *Leadership* in Syracuse...

Survey Shows More builders prefer INSULITE than any other brand of Insulating Sheathing



Better sheathing jobs at a lower cost . . . that's why more builders prefer INSULITE BILDRITE SHEATHING. Here's how John Tarolli, veteran Syracuse builder, explains it:

"Gentlemen:

I use Insulite Bildrite Sheathing because it's the best on the market. 4-foot Bildrite has far greater bracing strength than horizontally-applied wood sheathing—and also saves me $169.00 on every house I build.

I know from experience that Bildrite isn't harmed by long exposure to the weather. It's asphalt-treated *throughout* for greater moisture resistance, and therefore doesn't warp, swell, or buckle.

Yours very truly,
JOHN TAROLLI
Syracuse, New York"

More and more architects, everywhere, are passing INSULITE'S savings and other advantages on to their clients by specifying *Bildrite Sheathing.* May we arrange to show you samples and give you complete information about *Bildrite* and other quality INSULITE products? Just drop us a card at the address below.

Refer to Sweet's File, Architectural Section—10a/In

9-51

INSULITE DIVISION
MINNESOTA AND ONTARIO PAPER COMPANY

MINNEAPOLIS 2, MINNESOTA

"Best operators in the business!"

RICHARDS-WILCOX AuT-o-DoR®

Electric Operators

open and close garage doors automatically

Here you see the perfect answer for every home-owner who wants garage doors that open and close automatically—the R-W No. 1251 AuT-o-DoR Electric Operator, especially designed for opening and closing sectional or one-piece type residential overhead garage doors.

Easy to Install—R-W No. 1251 Operators come completely assembled in a single carton, ready to install and hook to AC current. Especially recommended for R-W 999 Garage Doors.

Easy to Service—Long life self-lubricating oilite bearings are used throughout. Roller chain is completely enclosed. Tension of chain is easily adjusted. V-belt drive has automatic adjustment. No special tools required to service any parts in this operator.

Choice of Three Controls—Three different types of controls are available, as shown above. Each type functions smoothly and efficiently. Send for catalog A-87 with detailed information about R-W No. 1251 AuT-o-DoR Electric Operators—write our nearest office today.

1880-1951

OVER 71 YEARS

Richards-Wilcox Mfg. Co.

"A HANGER FOR ANY DOOR THAT SLIDES"

AURORA, ILLINOIS, U.S.A. *Branches in all principal cities*

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT
INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS
ELEVATOR DOOR OPERATING EQUIPMENT

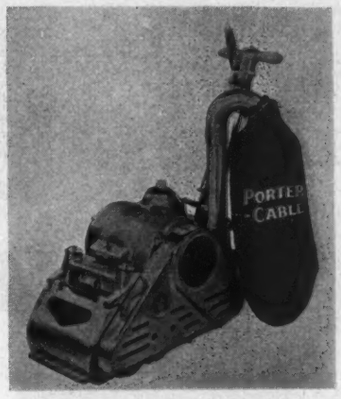
PRODUCTS

(*Continued from page 208*)

period. It can be applied with brush, roller, spray or by the dip method. Three coats are suggested for hard woods and four coats for soft wood. The finish is available in clear and several colors. Plastic Cement and Chemical Co., 340 East 27th St., New York 16, N. Y.

Floor Sander

A heavy duty floor sander, the *Contractor Special Model 504*, offers an interchangeable drum cover that can be renewed in three minutes rather than sending it to the factory for maintenance. The sander is equipped with a fan that



Floor sander removes dust from work

is claimed to pick up 97 per cent of the dust. Cutting pressure may be adjusted in five separate stages, so that the operator has complete control over depth of cut. Although the sander weighs 241 lbs, it responds readily to hand pressure the manufacturer states, and can be maneuvered into a tight three foot circle. The machine can be disassembled into two separate units, the motor and chassis to facilitate the handling by one man. The drum cuts to within one inch of the baseboard reducing the amount of edging work required. Standard equipment that is included with the machine is 100 ft cord assembly, carrying handle, six grits of paper, dust bag, wrenches. Dimensions; drum, 8 in. dia; overall, 13¾ in. wide, 36 in. long, 36 in. high. Porter-Cable Machine Co., 1174 N. Salina St., Syracuse 8, N. Y.

(*Continued on page 212*)

Building costs cut 1/3 for Unique New Airmen's Barracks

Fenestra* Metal Building Panel Construction Saves Time, Labor, Materials, Money

Only $1.11 Per Cubic Foot for this 37 x 282-ft., 3-story Offutt Air Force Base barracks housing 216 men. Total cost about 321 thousand dollars—approximately 30% less than conventionally built barracks . . . and the whole building is firesafe! Contractor: Korshoj Construction Company, Blair, Nebraska.

As compared to the cost of conventional barracks construction, estimated at $2,300 per man, the cost of the nonconventional barracks illustrated above is only an estimated $1,485 per man (just $1.11 per cubic foot)!

And this barracks at Offutt Air Force Base, Omaha, Nebraska, is something special. Flyers of the Strategic Air Command fly "around the clock." As some sleep, others are "taking off." So army engineers are giving them 2-man rooms for peaceful quiet and privacy, better and more convenient bath facilities, a pleasanter place in every way—all at $1.11 per cubic foot . . . a saving of one-third. How?

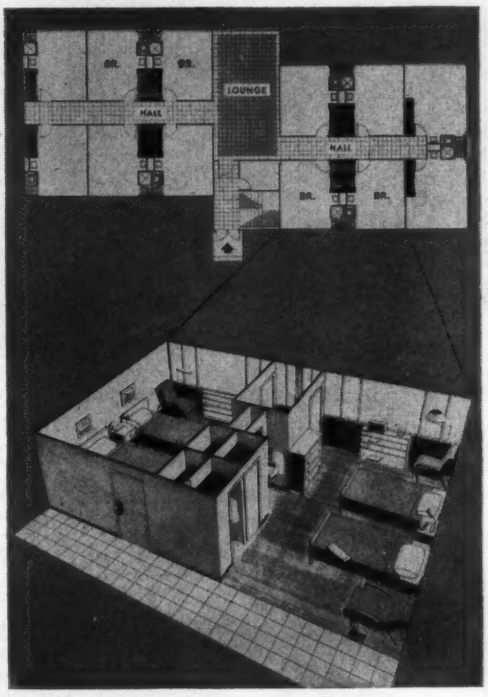
First, they erect a steel frame. Then into the frame go Fenestra "C" Panels to form curtain walls. These strong, lightweight steel sandwiches packed with glass fiber insulation are 16 inches by 14 feet and can be placed by two men. They form a finished, prime-painted, noncombustible outside and inside wall at the same time. After three courses of "C" Panels, in goes a 14-foot window assembly including Fenestra Steel Windows. Then more panels and up leaps the building!

No mason, no carpenter, no lather, no plasterer. Just a steel worker and a painter, period!

Floors, ceilings and roof are Fenestra "AD" Panels, cellular, with a smooth, flat surface top and bottom. This "AD" Panel floor is topped with two inches of concrete and finished in asphalt tile. And the bottom of the panels forms a finished, prime-painted, noncombustible ceiling for the rooms below.

Think of the advantages in using structural material that also forms finished walls and ceilings. No wonder building costs were cut one-third!

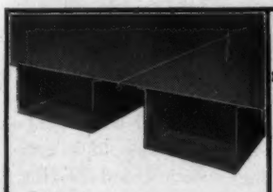
Make Those Same Savings Yourself. Call the Fenestra Representative today (he's listed under "Fenestra Building Products Company" in your Yellow Phone Book). Or mail the coupon.



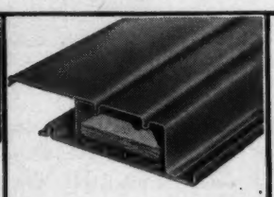
*Trademark

Fenestra **PANELS • DOORS • WINDOWS**

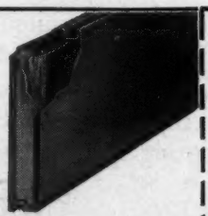
engineered to cut the waste out of building



"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".



"C" Insulated Wall Panels. Standard width 16". The depth is 3".

DETROIT STEEL PRODUCTS COMPANY
Building Panels Division
Dept. AR-9, 2252 E. Grand Boulevard
Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name_____

Company_____

Address_____

You can depend on

B. F. Goodrich Flooring Products

Leading architects, designers and decorators specify B. F. Goodrich Flooring Products because they know from experience that whatever the flooring problem may be, there's always a product from this quality line that will do the job *better.* One of these is

Arraflor

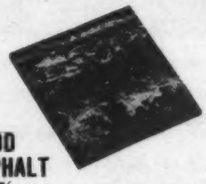
In restaurants, retail shops, showrooms . . . in fact, wherever the need is for a flooring that's durable, colorful, easy-to-clean, then specify B. F. Goodrich Arraflor.

Arraflor is a Vinyl Plastic Asbestos tile that is super resistant to oils, greases, fats, etc. This fact, plus the fact that it can be installed on, above or below grade, makes it particularly suitable for any basement area.

And the wide variety of clear, brilliant colors to choose from is your client's assurance of floors that will blend with any decorative scheme.

Write today for complete details about Arraflor and other B. F. Goodrich Flooring Products . . . the products that satisfy *any* flooring specification.

Here's another B. F. Goodrich Flooring Product



HOOD ASPHALT TILE for years of low-cost, handsome, quiet, easy-to-maintain flooring anywhere—on, above or below grade.

There's also: Rubber Tile, Rubber Cove Base, Rubber Stair Treads, Rubber Thresholds and a complete range of waxes, cleaners and cements.

YEARS OF BETTER FLOORING FROM YEARS OF BETTER RESEARCH

B.F.Goodrich Flooring Division

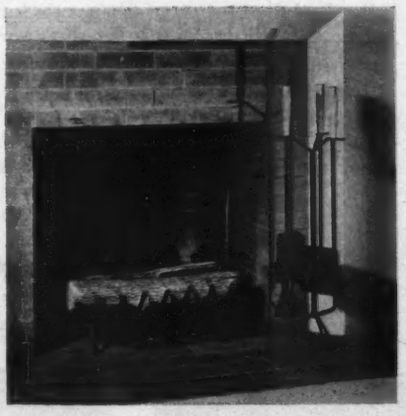
PRODUCTS

(*Continued from page 210*)

Fireplace Accessories

A group of forthright, simple fireplace accessories is the latest addition to the list of utilitarian household items redesigned by George Nelson in the past few years. This new group includes a variety of andirons, a log rack and a fire-tool set. All are made of black-finished steel and iron, with welded joints. The tools include brush, shovel and poker, and have shaped handles of polished birch; floor or wall holders are available. The line was designed for the Howard Miller Clock Co., Zeeland, Mich., and is nationally distributed by Richards-Morganthau, 225 Fifth Ave., New York, N. Y.

Fireplace accessories are simply designed of black-finished welded steel



Installation, Macon, Ga. *Archts. Moscowitz, Willner & Millkey, Atlanta.*

SUPER MARKET, SHOPPING CENTER or SINGLE STORE, you can plan the unusual with complete Brasco Construction. Full advantage may be taken of the extremely versatile Brasco line to design fronts with unique identity, architectural distinction and magnetic customer attraction.

Handsome, rugged assemblies for every store front purpose are available in both heavy gauge stainless steel and anodized aluminum. Sash and sill combinations are fully interchangeable to permit wide latitude in design and an interesting variety of special effects.

Heavy duty reinforced bars provide extra protection for enlarged and heightened areas. The deeper, safer Brasco grip holds plate glass firmly and securely with gentle, even pressure. Here indeed is super construction for every store front job, regardless of type or size. Brasco products are readily available wherever you are located. Write for full size details and address of your nearest Brasco distributor.

Unit A, New Chatham Business District, Chicago. *Rosen & Horowitz, Architects & Engineers.*

BRASCO MANUFACTURING CO.

HARVEY • (Chicago Suburb) • ILLINOIS

Specialists in Metal Store Front Construction for more than 40 Years

WAKE COUNTY OFFICE BUILDING

its architect and builder discuss
the value of having
manufacturers' catalogs filed in Sweet's

Wake County Office Building, Raleigh, North Carolina
William Henly Deitrick, Inc., Architects
Strong & Harman, General Contractors

"Members of staff use Sweet's constantly"

says W. H. Deitrick

William Henly Deitrick
William Henly Deitrick, Inc., Architects
Raleigh, North Carolina

"There is certainly no question as to how valuable Sweet's File is to the practising architect. Having hundreds of manufacturers' catalogs so conveniently arranged and easy to find makes it absolutely indispensable.

"Naturally, members of our staff use Sweet's constantly in preparing plans and writing specifications, but we also find many other uses here. Each year, we take in several young men fresh out of architectural school, and we find Sweet's invaluable in training them — in helping them to become familiar with all the different building products and techniques.

"We also use the catalogs in Sweet's in discussions and conferences with clients. It saves a great deal of time in reaching an agreement by showing why the product we have specified is the best for the job.

"A short time ago, Sweet's sent us a booklet describing the new classification and indexing system used in the Architectural File. Our various departments are now in the process of changing over their files of individually distributed catalogs and other printed data to conform with this system. It's the best yet devised, and it affords a perfect coordination for the whole office with Sweet's.

"One thing, though, is that I would like to see fewer ads in the File. When we go to Sweet's, we want complete technical information on a product in catalog form."

"Couldn't get along without it"

says W. H. Strong

W. H. Strong
Strong & Harmon, General Contractors
Raleigh, North Carolina

"We just couldn't get along without Sweet's File. We use it for reference in bidding, and, of course, in purchasing. Then too, it's a life-saver when it comes to last minute changes.

"We do a good deal of public work where the specifications are required to show at least three optional products in every case. With Sweet's on hand, we can get all the information we need on these products, and then we're in a better position to invite our suppliers to bid. In line with this, it is important for the various manufacturers to list their branch offices — even with telephone numbers — on the back of their catalogs. This is very important where you're running an estimate and need a quotation right away.

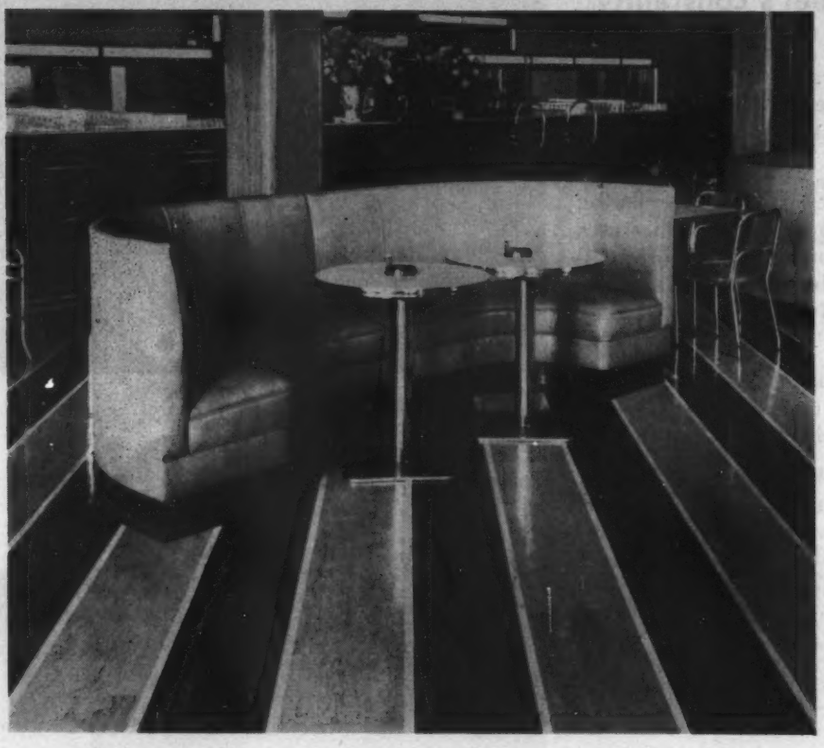
"Another thing about Sweet's File is the way we know that the various catalogs are always there when we need them. Just today, a salesman from one of the big companies came out here to this job site and left me a very fancy catalog. The only trouble is that I may not have any use for it for six months or so, and by that time it probably will be lost. If that catalog were in Sweet's, there wouldn't be any problem.

"I would like to see all the catalogs in Sweet's File show, where applicable, installation data, shop details and stock sizes. This would be a big help."

Sweet's Catalog Service

DIVISION OF F. W. DODGE CORPORATION, 119 WEST 40TH STREET, NEW YORK 18, N. Y.

DON'T GAMBLE WITH YOUR CLIENT'S MONEY



Specify

WRIGHT RUBBER TILE

and be safe!

Remember — when you gamble with cheap or untried floors you gamble with your client's money *and your reputation.*

You don't gamble when you specify floors of Wright Rubber Tile — because there's thirty years' proof behind every claim we make.

You don't gamble, because Wright Rubber Tile exceeds government specifications for rubber tile flooring.

When you specify Wright, you get everything you want in a flooring — beauty, long life, comfort, ease of maintenance, and low annual cost.

No other flooring — in all the world — offers so many proved benefits as Wright Rubber Tile. No other flooring offers you and your clients as much assurance of long-life satisfaction. Play it safe. Specify Wright the next time you specify flooring. You will find suggested specifications in Sweet's Architectural File.

FREE SAMPLE KIT FOR ARCHITECTS

Write today, on your letterhead, for a complete set of 4x4 samples of Wright Rubber Tile in 21 beautiful colors.

WRIGHT MANUFACTURING CO.
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WRIGHT RUBBER TILE

FLOORS OF DISTINCTION

- WRIGHTEX—Soft Rubber Tile
- WRIGHTFLOR—Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

2961

LITERATURE

(*Continued from page 178*)

showing cooling surface required for capacities ranging from 2 to 232 tons of refrigeration at water flow rates from 15 to 575 gpm. A log mean temperature table is included, as well as dimensions, pressure drops, and typical piping arrangements. Patterson-Kelly Co., Inc., 315 Burson St., East Stroudsburg, Pa. *

Hospital Elevators

The Modern Hospital and Its Elevator Needs. Booklet is designed to illustrate the solution of problems encountered in providing between floor transportation in hospitals. The problem of location, speed and size is considered. 20 pp. illus., tables, diagrams, Otis Elevator Co., 260 Eleventh Ave., New York 1, N. Y.*

Steel Windows

Fenestra Hot-Dip Galvanized Apartment Casement Windows. Catalog describes features of a line of steel casements for multi-family dwelling units. Window designs, construction features, hardware and screens are also discussed. Specifications are included, along with illustrations of types and sizes of casements available. 4 pp., illus. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.*

Kitchens

The Columbia All Purpose Kitchen. Brochure describes steel kitchen units for homes, apartments, cabins. All purpose deep drawer base cabinets, corner wall cabinets, wall cabinets for kitchen, laundry or bath are shown, in addition to details of door catches and drawer locks. A planning service is also mentioned. 2 pp., illus., Columbia Kitchens in Steel. Supermatic Products Corp., Burbank, Calif.

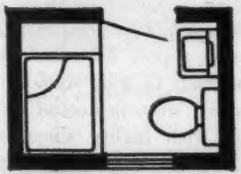
Reinforced Concrete Building Codes

"*The ACI Building Code.*" *Building Code Requirements for Reinforced Concrete* (*ACI 318–51*). Adopted as a Standard of the American Concrete Institute at the 47th annual convention last February, the code contains notes on the

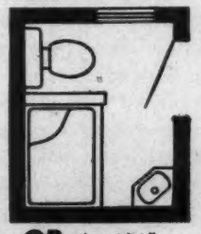
(*Continued on page 218*)

how small can a bathroom be?

OR 4' x 7'



OR 4' 6" x 6' 6"



OR 5' x 6' 3"

with the

CRANE Lahoma Bathtub

you can solve "minimum" bathroom problems in private homes, hotels and apartments, tourist courts—in fact, wherever space is at a premium. Made only by Crane, this unique bathtub measures only 31 x 42 inches with sides just 12 inches high. The bottom is flat for safety, and there is a built-in corner seat for comfort while foot, sponge or shower bathing.

The Crane *Lahoma* is made of *Duraclay* (genuine vitreous-glazed earthenware), the exclusive Crane all-ceramic material that hospital fixtures are made of. Its smooth, glistening surface is unaffected by household acid, stain, abrasion and thermal shock. Wipes clean with a damp cloth. *Dial-ese* controls operate with finger-tip pressure—help reduce wear and consequent dripping. Consult your Crane Branch or Crane Wholesaler.

CRANE CO.

GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

Apartment on columns

Architectural concrete slabs cover interior and exterior columns, unifying design

For see-through spaciousness integrating lobby and gardens into visual unity, the new Manhattan House in New York rests upon 74 handsome columns. Beautiful column facings are pre-cast concrete slabs made with Atlas White Cement and white quartz aggregate . . . gracefully accenting the open areas in the building base.

Two flat U-shaped slabs, 11′ high and 2½″ thick, are joined to form each column. Shop-fitted with shiplap joints, each pair encloses a support column and conduits. Design of the entire ground floor is integrated because concrete slabs are used indoors as well as out.

Architects: Skidmore, Owings, & Merrill and Mayer & Whittlesey.
Owner: New York Life Insurance Company.
MoSai Precast Facing Slabs: Dextone Co., New Haven, Conn.

You will find many beautiful and original uses for concrete facing slabs made with Atlas White Cement. The range of forms, textures and colors is tremendous. And because Atlas White Cement is a true, uniform white, it enhances the rich color values of both pigments and aggregates.

Atlas White Cement complies with ASTM and Federal Specifications. For further information see SWEET'S Catalog, Section 4E/7a and 13C/5, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Ave., New York 17.

AR-C-31

FOR BEAUTY AND UTILITY

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LITERATURE

(*Continued from page 216*)

design and construction of reinforced concrete buildings and is said to permit savings in steel in reinforced concrete construction. Quality of concrete; allowable stresses; mixing, placing, curing and cold weather protection; forms; cleaning, bending, splicing and protection of reinforcement; construction joints; general design considerations; flexural computations; shear and diagonal tension; bond and anchorage; flat slabs; columns and walls; footings are discussed in the bulletin. 64 pp., illus. Price, 50 cents. American Concrete Institute, 18263 W. McNichols Rd., Detroit 19, Mich.

Fire Tests

(*1*) *Fire Tests of Wood Framed Walls and Partitions with Asbestos-Cement Facings.* (*2*) *Fire Tests of Steel Columns Protected with Siliceous Aggregate Concrete. By Nolan W. Mitchell. Building Materials and Structures Reports 123 and 124.* The first article discusses performance of wood-framed walls and partitions faced with asbestos-cement shingles or sheets, when subjected to fire tests under standard procedures. The information is directed to those who are concerned with the evaluation of fire resistant characteristics of such constructions, and also will be of help in the selection of constructions which will meet fire resistance requirements.

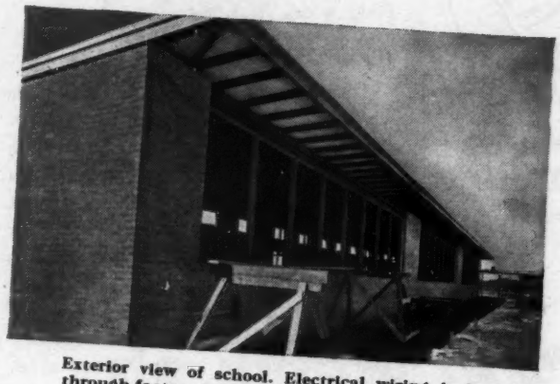
The second report describes the results of fire tests of four steel building columns which were protected by concrete made with highly siliceous aggregates. Also discussed are tests made on concrete walls with the same aggregates and which further confirmed the results of the column tests.

Chapters in both booklets include, in addition to foreword and introduction, materials, equipment and method of testing, results of tests, and summary and discussion. The articles are supplemented with explanatory photographs, charts and graphs. 12 and 14 pp., illus., respectively. Price, 15 cents each. Superintendent of Documents, Washington 25, D. C.

(*Continued on page 220*)

STRAN-STEEL FRAMING

FOR SCHOOLS



Exterior view of school. Electrical wiring is installed through factory-punched holes in frame members.

Here is what Benjamin Kenneth Wyatt, architect for the Robstown, Texas and other school buildings, says about Stran-Steel Framing:

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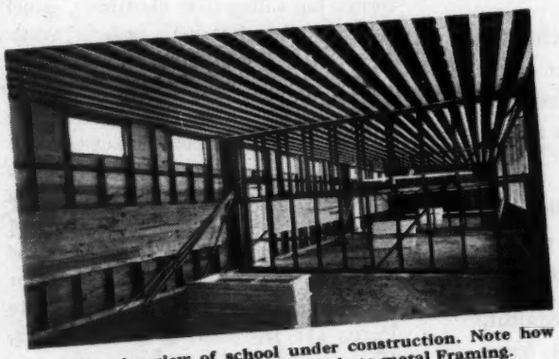
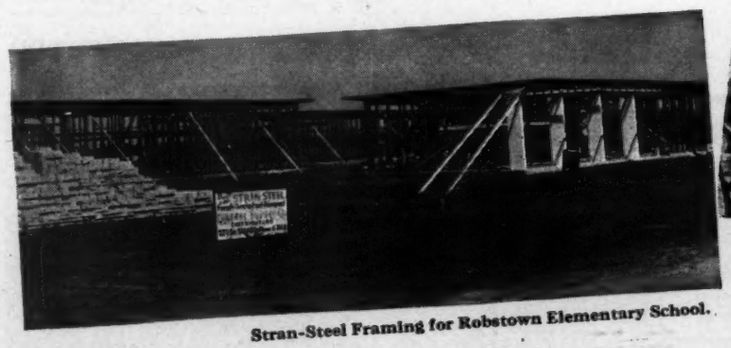
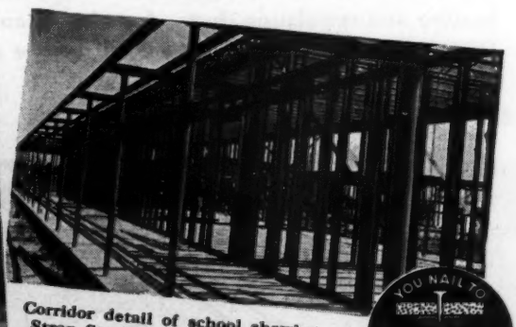


Interior view of school under construction. Note how wood collateral is nailed directly to metal Framing.



Stran-Steel Framing for Robstown Elementary School.



Corridor detail of school showing Stran-Steel Framing.

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LITERATURE

(Continued from page 218)

Color Guide

Interior Decorator's Color. By Color Helm. Brochure gives details of a color guide instrument designed for anyone dealing with or specializing in color. Format, features and method of use are discussed for this newly revised instrument. 2 pp., illus. Color Helm, Inc., Ridgewood, N. J.

Wallboard-Nail-Dial Guide

A round nail guide with two moveable wheels and measuring 4¾ in. is currently available for architects. One side of the rotary guide, the *Dial-It-Right* side, gives information on the correct types and thickness of hardboard for exterior signs and walls, interior ceilings and walls, underlayment, wainscots, bench tops, case-backs and ends, counter tops, doors, drawer bottoms and floors. *Nail-It-Right*, the reverse side, gives instructions for selection of nails for interior ceilings and walls, concrete forms, lap siding over sheathing, panel siding, finish flooring, underlayment. Keyed for identification, 11 types of nails are illustrated. Thus, as the moveable wheel's indicator points to "underlayment," for example, the keys to ring grooved, drive screw and barbed box type nails appear in a die-cut window in the wheel. A grommet in the center of the guide functions as a pivot for the moveable discs, as well as a means for suspending the guide by a cord. Masonite Corp., 111 W. Washington, Chicago 2, Ill.

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Raymond E. Clouse, Architect, Gaston Place, East Liverpool, Ohio.

F. H. McGraw & Company, Constructors, Civil & Architectural Engineering Department, 51 East 42nd St., New York 17, N. Y.

Gerald A. Perkins, Architect, 438 Main, Glen Ellyn, Ill.

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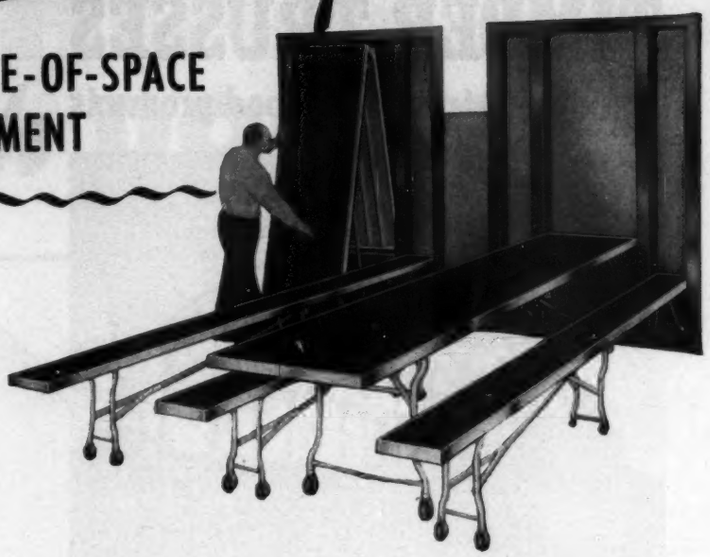

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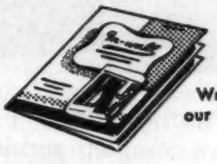

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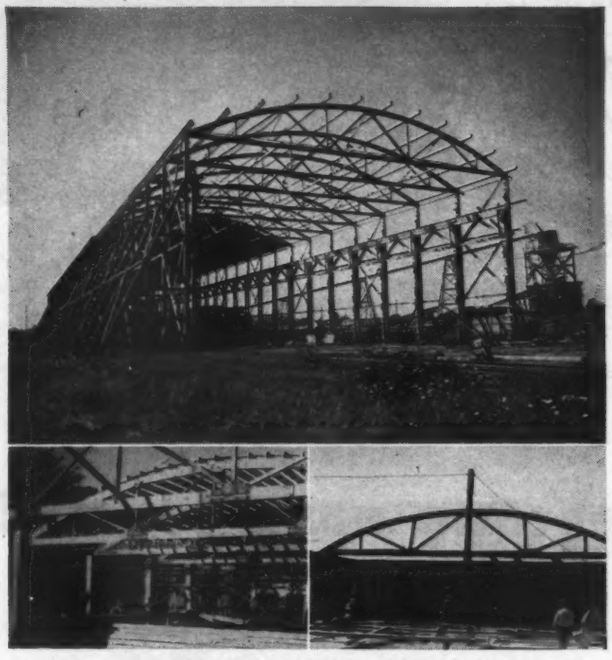

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THE RECORD REPORTS

WASHINGTON

(*Continued from page 27*)

example, of plastic or porcelain outlet boxes instead of steel in household electrical systems. In some kinds of masonry construction, lightweight aggregates could be used instead of heavier sand and stone for concrete. This weight reduction in turn would make it possible to use less reinforcing and structural steel.

"Another way to save steel made possible by the ordinance would be through increase of stress allowances on steel members in buildings. There are many opportunities for conservation of critical materials in household plumbing and heating systems and elsewhere in the house."

The document's formal title: An Emergency Ordinance Amending All Building, Electrical, Gas, Mechanical, Plumbing, and Related Ordinances; Authorizing the Use of Alternate or Substitute Materials and Methods during the Period of National Emergency.

Shorts

• Nearly 3600 seriously disabled veterans have established rights to federal grants for the so-called "wheelchair" houses. VA defrays 50 per cent of the cost of such homes for eligible veterans up to a maximum grant of $10,000. The agency determines that the applicant's disability is within the scope of the law, that it is medically feasible for him to live in the house, that he has sufficient income to carry the property, and that the particular home selected is adaptable to his needs. Homes for the wheelchair veterans have such architectural features as ramps instead of stairs, wider doorways, special bathroom fixtures, and exercise rooms equipped for needs of the individual. VA supplies model plans, specifications and blueprints. Use of these by the veteran is optional. As of June 30, 1951, the housing plans of 1880 disabled veterans had been approved in a total amount of $17,046,449.

• The Lyndon Johnson subcommittee report on ramshackle housing for veterans at Army camps stirred up considerable indignation in many quarters. The Senate subcommittee planned to follow up its exposé with another hearing at

(*Continued on page 224*)

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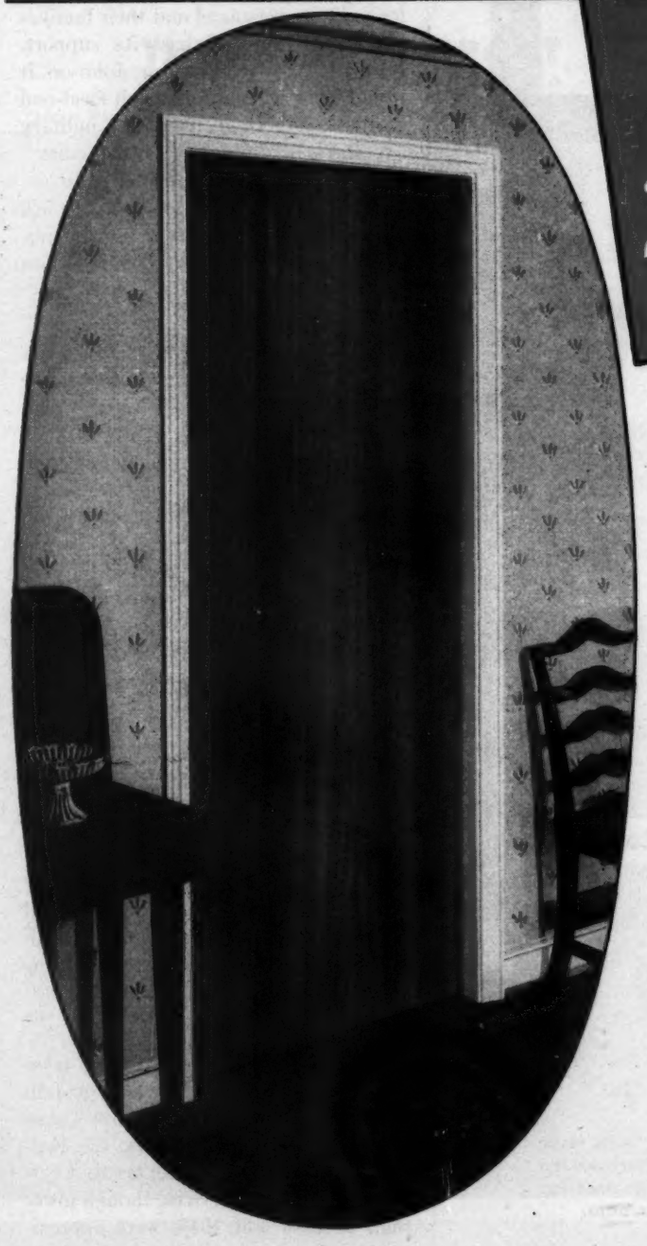

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THE RECORD REPORTS

WASHINGTON

(*Continued from page 222*)

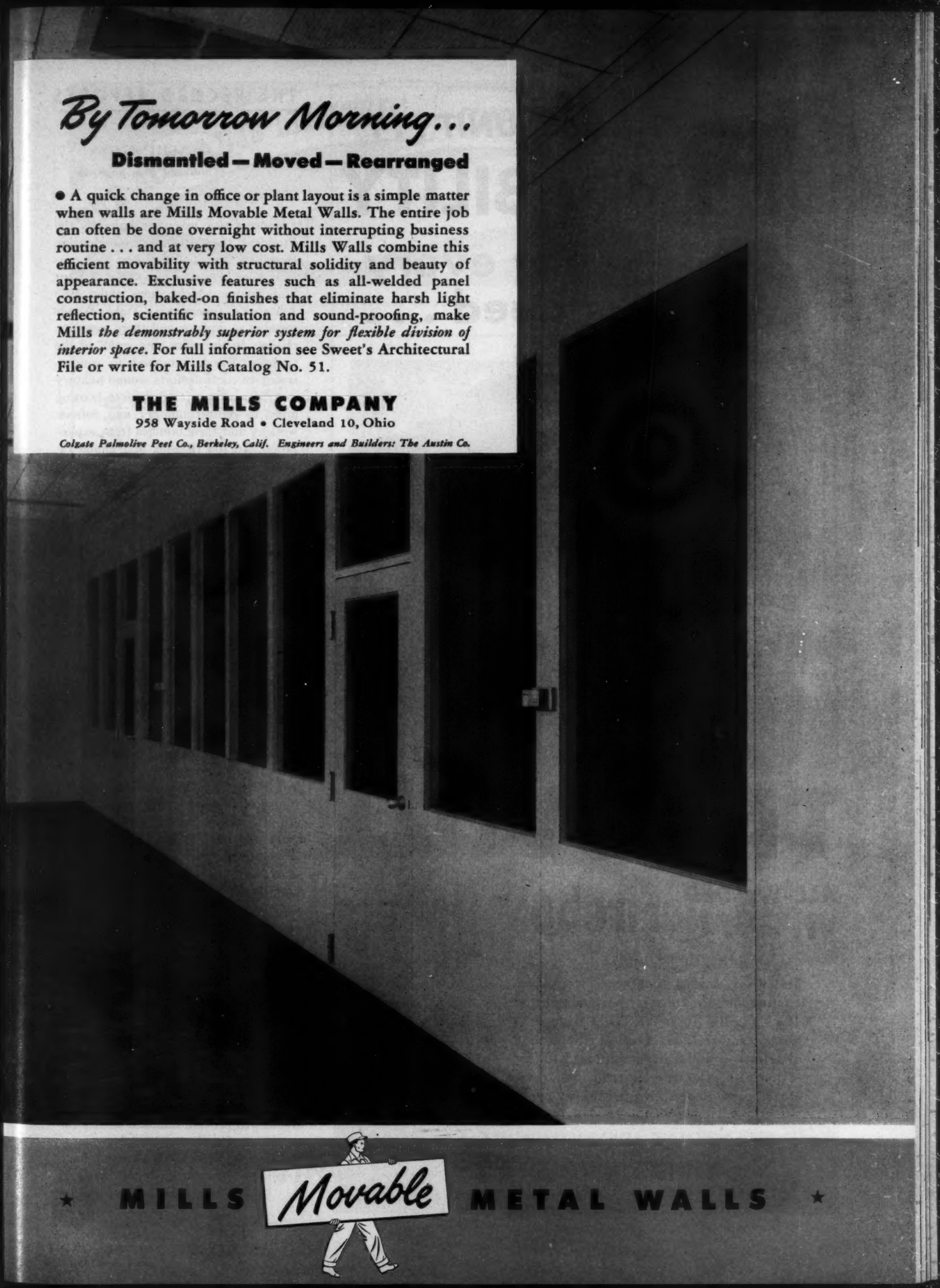
which military personnel charged with administering the military housing program were to be grilled. This subsequent hearing was scheduled, then indefinitely postponed, when Senator Johnson was called out of Washington on business. The National Association of Real Estate Boards, in connection with the initial Johnson report on near-slum conditions for military personnel and their families at three camps, pledged its support. N.A.R.E.B. wired Senator Johnson it would work with him through local real estate boards and with the military "to find quick and effective remedies." N.A.R.E.B. took the occasion to remark that crackdowns and controls will not relieve shortages. It suggested immediate lifting of all credit restrictions in the critical areas.

• The defense housing bill was on its way to final enactment by Congress after the House Banking committee accepted the Senate-passed version, amended it and sent it to the House floor. The committe tacked 27 amendments onto the Senate bill, but failed to change it in any major respect. Recognizing the importance of adequate housing for war workers and military personnel, the committee report said defense housing had to be provided if the country was to get full value out of its defense contracts.

• Raymond M. Foley, housing administrator, said the size of the developing program under Title I of the Housing Act of 1949 was indicative of sustained community interest in slum clearance and urban redevelopment. A total of 115 localities throughout the nation had obtained approval of advances of planning funds for program activity by the end of June.

• Average bills for residential and commercial light and power services on January 1, 1951, remained at or below previously established levels, the Federal Power Commission reported. Average for industrial services, though lower than in 1948 and 1949, were approximately six per cent above the low level established in 1940 and 1941.

(*Continued on page 226*)



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THE RECORD REPORTS

WASHINGTON

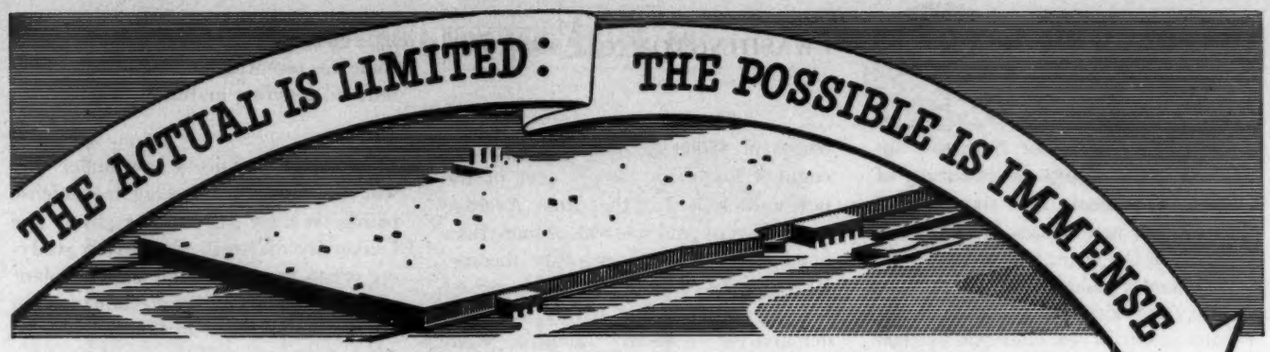
(*Continued from page 224*)

• Under a new executive order by the President, the old Office of the Housing Expediter was abolished, and rent controls went over to a new Office of Rent Stabilization which comes under Eric Johnston's supervision. Tighe Woods remains as director and there were few changes in the office as a result of the transfer. Woods promised to concentrate rent control efforts around military installations in critical defense housing areas to protect military and defense workers and their families from exploitation. To the Housing and Home Finance Agency went the compliance program under the veterans' housing program formerly administered by the Housing Expediter. This involves the handling of complaints of shoddy construction of homes built with privileges extended in the GI bill.

• The Petroleum Administration for Defense planned to stop natural gas service connections to all homes being completed in certain specified areas in the midwest and along the Eastern Seaboard. And it said it would require permission to be obtained for all connections to natural gas mains of large-scale users of the fuel. Purpose was to conserve steel, or rather because of a shortage of steel to fabricate into pipe to transport supplies from the southwestern gas fields. Interior Secretary Chapman, who heads PAD also, told Congress the principal bottleneck preventing maximum production of large diameter pipe needed for oil transportation and gas transmission appeared to be a shortage of steel plate that could be allocated to the pipe mills. PAD complained bitterly that the Defense Production Administration did not give it enough steel in the quarterly allotments.

• The Atomic Energy Commission still tried desperately to keep out of the housing business in the construction of its new installations. But it was having lots of trouble getting private contractors to provide sufficient shelter for construction workers, it said. Housing of the three-year temporary variety is hard to get, said Chairman Gordon Dean.

(*Continued on page 228*)



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Industrial Construction. On the publishing plant for the Baltimore Sun, the bid on riveted construction was $551,508 . . . welded construction only $482,986, saving $68,522. Structural weight was cut 7%.

Telephone Exchange. The framework for the Associated Telephone Company, West Los Angeles, California, was erected in half the time . . . steel tonnage 18% less than riveted construction. Welding also eliminated vibration and disturbance to $2,000,000 worth of delicate instruments.

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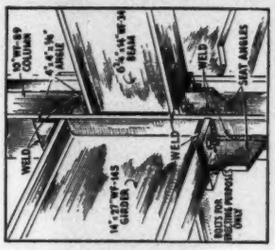
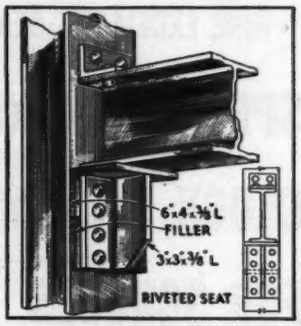


Beam-to-Column Connection *used on three story Penn College Mechanical Engineering Building. Photo shows welders completing column splices.*

Typical Open Box Column, *one of 14 shop fabricated for Associated Telephone Co. exchange, West Los Angeles, California.*

the ACTUAL



Riveted Seat *for 45,000# load. Has 6" x 4" x ⅜" seat angle, a ⅜" filler, a 3" x 3" x ⅜" stiffener angle 12" long and 8-¾" rivets.*

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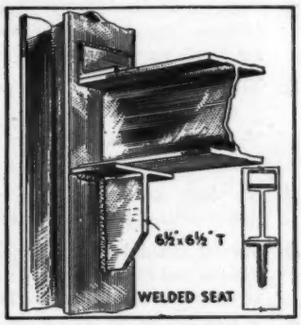

Welded Seat *requires only 3" piece of 6½" x 6½" T and 15 inches of ¼" fillet weld.*

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WASHINGTON (*Cont. from p. 226*)

• The Bureau of Labor Statistics announced initial results of its survey of housing investment. This showed that purchasers of new houses in metropolitan areas in the latter half of 1949 were predominantly middle-income families earning from $3000 to $5000 per year. Average price of a new home was $11,000 during the period. Families with incomes of $5000 or more per year accounted for about 80 per cent of the new units rented in that time. Average monthly rent paid was $93, or more than one-fifth of average monthly income. BLS said the period was one of increased housing activity due to an expanded demand for "economy" housing. Moderate-priced homes were made possible by enlarged operations, elimination of some less essential housing features, and reduced building materials prices.

• Two HHFA projects now under way will study effects of two big new defense plants on their surrounding areas. The University of North Carolina is studying urban growth around the new plant of the Atomic Energy Commission on the Savannah River in South Carolina. A similar survey is being conducted for HHFA on urban development around the United States Steel Company's works project at Morrisville, Pa. Results of the studies, both of which will run for two years, are expected by HHFA to aid both government and industry on housing and community planning problems.

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7. Bell board allows placing any signal on any program schedule by changing position of plug on board; also permits manual ringing of any signal when required.
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Master-Program Controller, Type SYN-S. Approx. Dimensions, 15" x 38" x 9".

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ON THE CALENDAR

Current through Sept. 30: Festival of Britain, including architectural exhibition on main festival grounds, south bank of Thames, London — London and throughout British Isles.

Current throughout 1951: 1951 Good Design, second in the series of well-designed home furnishings exhibitions, sponsored by the Museum of Modern Art and the Merchandise Mart — The Merchandise Mart, Chicago.

Sept. 1–Oct. 6: Architects' Fall Trek to Europe, under leadership of Clair W. Ditchy, F.A.I.A.

Sept. 4–18: 13th Annual Conference on city and regional planning — Massachusetts Institute of Technology, Cambridge, Mass.

Sept. 11–20: Building Research Congress, with headquarters at Institution of Civil Engineers, London, England.

Sept. 16–21: National Convention, American Society of Sanitary Engineers — Hotel Statler, Detroit.

Sept. 17–20: 53rd Annual Convention, American Hospital Association — St. Louis, Mo.

Sept. 23–30: Second Annual Congress, Union Internationale des Architectes — Rabat, Morocco.

Sept. 29–Oct. 9: Building and Decoration Exhibition, sponsored by N. V. Standard Boekhandel — Antwerp, Belgium.

Oct. 4–6: Annual Convention, California Council of Architects — Coronado, Calif.

Oct. 8–12: 39th National Safety Con-

(*Continued on page 230*)

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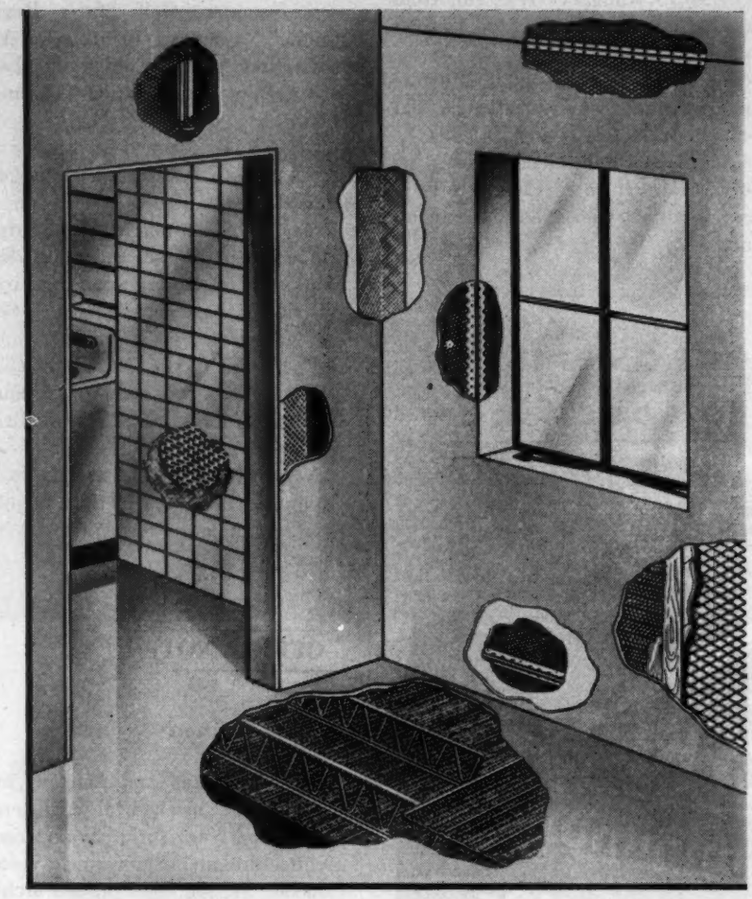

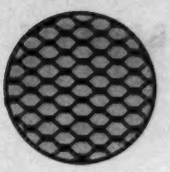

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THE RECORD REPORTS

(*Continued from page 228*)

gress and Exposition, National Safety Council — Chicago, Ill.

Oct. 9–12: 18th Annual Conference, National Association of Housing Officials — Hotel Statler, Washington, D. C.

Oct. 11–13: Annual Convention, New York State Association of Architects — Hotel Statler, Buffalo.

Oct. 12–13: Fall Meeting, Alabama Society of Architects — Auburn, Ala.

Oct. 17–19: Annual Convention, Architects Society of Ohio — Hotel Deshler, Columbus, Ohio.

Oct. 22–24: 33rd Annual Meeting, American Standards Association — Waldorf Astoria Hotel, New York City.

Oct. 22–26: Fall General Meeting, American Institute of Electrical Engineers — Hotel Cleveland, Cleveland, Ohio.

Oct. 22–26: Annual Convention, American Society of Civil Engineers — Hotel Statler, New York City.

Oct. 26–27: Annual Meeting and Design Seminar, Gulf States Regional Council, American Institute of Architects, and Annual Convention, Louisiana Architects Association — Memphis, Tenn.

Oct. 30–31: Regional Meeting, American Concrete Institute — Hotel Sheraton, St. Louis, Mo.

Nov. 1–2: Time and Motion Study and Management Clinic, including discussions of plant layout, sponsored by Industrial Management Society — Sheraton Hotel, Chicago.

Nov. 1–3: Fall Meeting, Virginia Chapter, American Institute of Architects — Hotel Natural Bridge, Natural Bridge, Va.

Nov. 14–28: Building Exhibition, Olympia, London. Details available from: Managing Director, 4 Vernon Place, London W.C. 1, England.

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OFFICE NOTES

Offices Opened

• Anderson-Nichols and Company, architectural and mechanical engineers of Boston and New York, have opened an architectural and engineering division in Concord, N. H. The Concord architectural firm of Lyford & Magenau will close out 16 years of active practice on completion of current projects, and with its entire staff will form the nucleus of the Anderson-Nichols Concord organization. Stewart A. Lyford has been appointed manager of the Concord division and Eugene Magenau, assistant manager and coordinating engineer. William F. Dewey, partner of the Anderson-Nichols firm in Boston, will have overall charge of the Concord division.

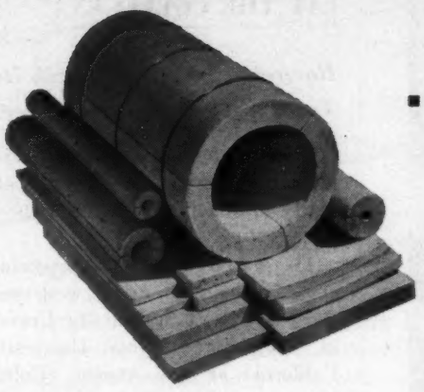
• Roger Burton has opened an office for the practice of architecture at 84 State St., Boston, Mass.

• James D. Carter has announced the opening of an office for the practice of architecture at 3244 De Saix Blvd., New Orleans 19, La.

• Karl Fink, Designer, has announced the opening of his office at 515 Madison Avenue, New York City. For the past five years Mr. Fink has been art director for the Rahr Color Clinic in New York.

(*Continued on page 232*)

KAYLO HEAT INSULATION



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THE RECORD REPORTS

(*Continued from page 230*)

New Firms, Firm Changes

• Announcement has been made of the promotion of Stanley G. Langefels to the post of assistant to the president and of the appointment of Albert Kennerly to succeed him as director of field engineering for A. M. Kinney, Inc., consulting engineers and architects, 2905 Vernon Pl., Cincinnati.

• Marvin G. Probst, president of Graham, Anderson, Probst and White, Inc., Chicago architectural and engineering firm, has announced the appointment of George W. Wickstead as assistant to the president.

• Capt. C. Reid Johnson, CEC, USN (ret.), has been named director of the new San Diego office of the Los Angeles architectural and engineering firm of Pereira and Luckman.

• George Farkas and Dr. Walter Baermann, Designers, have announced the opening of an office at 954–41st St. Miami Beach, Fla.

New Addresses

The following new addresses have been announced:

Harvey Wiley Corbett, Architect, 1270 Avenue of the Americas, New York City.

William G. Lyles, Bissett, Carlisle & Wolff, Architects-Engineers, R. Emory Holroyd Jr., Associate, Addison Apartment Building, 831 E. Morehead Street, Charlotte, N. C.

John Christopher Mayer, Architect, 1 Gramercy Park, New York 3, N. Y.

Harold G. Stoner, Architect, 1355 Sir Francis Drake Blvd., San Anselmo, Calif.

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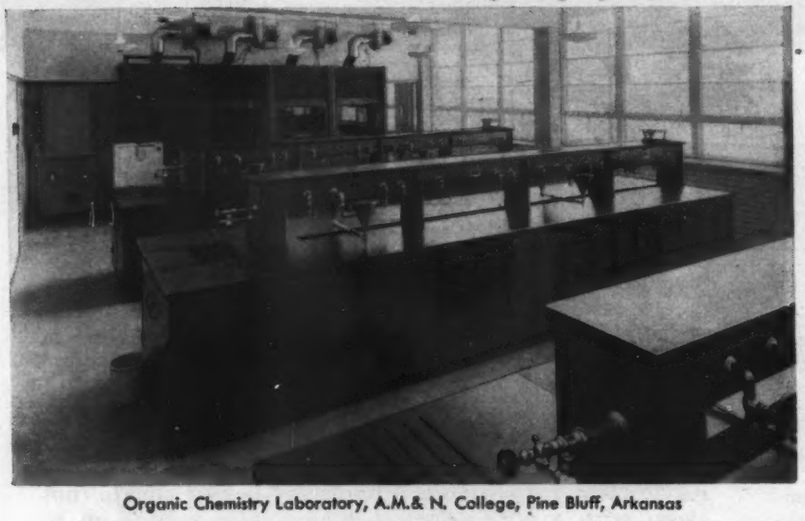

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REPRESENTATIVES IN PRINCIPAL CITIES

AT THE COLLEGES

Harwell Hamilton Harris Heads Texas School of Architecture

Harwell Hamilton Harris of Los Angeles has been named director of the newly autonomous Texas School of Architecture.

Mr. Harris, who began practicing architectural design on the west coast in 1930, has also taught at the University of Southern California, University of California at Los Angeles, Columbia University, Yale University and the Chouinard Art Institute and Art Center School, both in Los Angeles. His wife is Jean Murray Bangs Harris, who has written articles on architectural subjects for numerous periodicals.

The School of Architecture will offer two degrees, Bachelor of Architecture and Bachelor of Architecture in Regional and City Planning. The College of Engineering, of which the School of Architecture has been a part, will continue to offer the Bachelor of Science in Architectural Engineering degree.

More Stress on Science in U. S. Engineering Is Urged

Dr. John R. Dunning, dean of the Columbia University School of Engineering, has called for more U. S. emphasis on the science of engineering.

(*Continued on page 234*)

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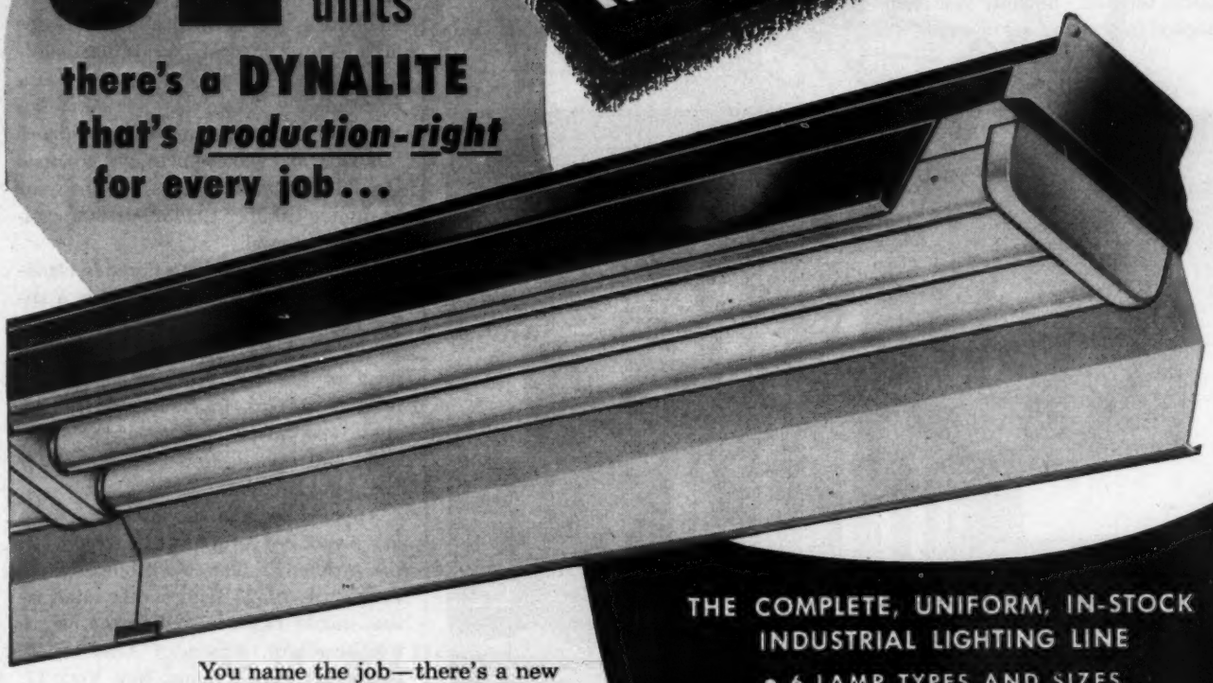

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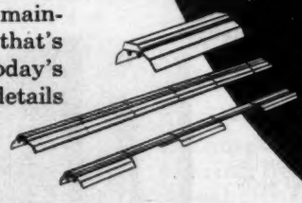

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(*Continued from page 232*)

Doctor Dunning, recently returned from a visit to Great Britain and France, said he believed American engineering schools, while maintaining their practical approach, must emphasize much more heavily the fundamental — the scientific — aspects of engineering education.

"Before the war," he said, "our country excelled in the training of engineers, but we relied too much on Europe to train the scientists responsible for more fundamental work.

"The war, with its devastating effects on education, manpower and the national economies, changed all that. Now Europe looks to America for leadership in an engineering science, as well as other fields."

"The basic need today," he concluded, "is for an educational system in engineering that stresses the fundamental discoveries, as well as the practical applications."

Fellowships

• Applications are now being received for the Rome Prize Fellowships for 1952–1953. These fellowships are offered by the American Academy in Rome to mature students capable of doing independent work in architecture, landscape architecture, musical composition, painting, sculpture, history of art and classical studies.

Fellowships are awarded on evidence of ability and achievement and are open to United States citizens for one year beginning October 1, 1952, with a possibility of renewal.

Research fellowships, offered in classical studies and art history, carry a stipend of $2500 a year and free residence at the Academy. All others carry a stipend of $1250 a year, transportation from New York to Rome and return, studio space, free residence at the Academy, and an additional allowance for European travel.

Applications and submission of work in a prescribed form must be received at the Academy's New York office before January 1, 1952. Requests for information should be addressed to the executive secretary, American Academy in Rome, 101 Park Avenue, New York 17.

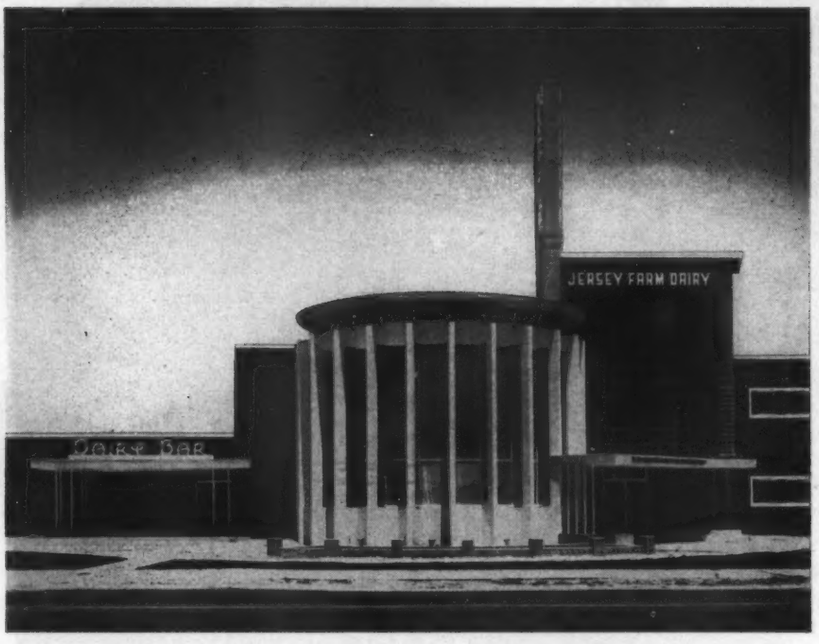
Awards

• A textbook on architecture for high school students will be written by the recipient of one of two recently announced Brunner Scholarship awards of the New York Chapter of the American Institute of Architects.

Prof. Esmond Shaw, assistant to the dean of Architecture at Cooper Union, will write a history of domestic architecture in the United States.

Prof. Frederick J. Adams, head of the department of city and regional planning at the Massachusetts Institute of Technology, also received one of the $2400 Brunner Scholarships. Professor Adams will undertake a study of the qualifications and training of those engaged in, or intending to become engaged in, the field of city and regional planning. He will prepare an evaluation of the present status of the professional field and the goals it should aim for if city planning is to advance as a science and an art.

(*Continued on page 236*)



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*Miami News

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THE RECORD REPORTS

(*Continued from page 234*)

• Frederick R. Bates, La Canada, Calif. and Thomas Williamson, Berkeley, Calif. have been awarded European travel fellowships for scholastic achievement by the Ernest A. Grunsfeld Fund.

Mr. Bates has been a student at the University of Illinois and Mr. Williamson at Stanford University.

Mr. Grunsfeld is associated with Friedman, Alschuler & Sincere, architects and engineers, Chicago.

• Seymour Auerbach, Columbus, Ohio, has been awarded the William Wirt Winchester Traveling Fellowship for foreign study given each year to a graduate of the Yale University School of Fine Arts. Mr. Auerbach received the Bachelor of Architecture degree in June.

The medal of the American Institute of Architects, awarded to the student who has maintained the highest standard in all his work during the entire course, was awarded this year to Lees S. Brown, Rome, N. Y. Honorable mention was given to Karl E. Treffinger, Columbus, Ohio. Both students received the Bachelor of Architecture degree this year.

The Parsons Memorial Medal for distinction in the field of group or city planning was awarded to Norris C. Andrews, New Haven.

• Five students at Princeton University were named for the awards in the 1951 competition for the Whitney Warren Prizes sponsored by the Beaux-Arts Institute of Design.

Winners were: G. C. Wheat Jr., first prize; L. W. Hauck, second prize; W. H. Funk, third place; W. H. Short, fourth place; and P. Holt III, fifth place.

The program for the problem, "A Setting for the Olympic Games," was written by Frank G. Lopez, senior associate editor of ARCHITECTURAL RECORD.

• Two members of the firm of McKim, Mead & White were recipients of honorary degrees at Commencement exercises in June. James Kellum Smith, F.A.I.A., received the honorary degree of Doctor of Humane Letters from Bowdoin College, in recognition of his firm's services to the college. For the firm's services to Union College, Lawrence Grant White, F.A.I.A., received the honorary degree of Doctor of Fine Arts.

AWARDS

• Shreve, Lamb and Harmon Associates, Architects, received a First Award in the Fifth Annual Institutions Food Service Contest for their design of the employee feeding facilities of the new Mutual Life Insurance Company building in New York City. The award was made by a board of judges comprised of leaders in the food service equipment industry and presented at the National Restaurant Association convention in Chicago.

• The Architectural League of New York has announced the results of the Birch Burdette Long Competition for architectural renderings. First prize went to Robert Schwartz for his pencil and wash drawing of the Swifton Shopping Center, Ketchum, Giná and Sharp, architects. Honorable mentions were given to

(*Continued on page 238*)

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THE RECORD REPORTS

(*Continued from page 236*)

Edward P. Chrystie, for a water color of the American Cemetery Memorial in Luxembourg, Voorhees, Walker, Foley and Smith, architects, and to George Cooper Rudolph, for a water color of the *Good Housekeeping* model house, Cliff May, architect.

• Ervin George Bailey, past president of the American Society of Mechanical Engineers and vice president of Babcock and Wilcox Company, has been selected to receive the 1952 John Fritz Medal and certificate for "outstanding engineering achievements in the field of combustion and distinguished service to his fellows in advancing the engineering profession."

• Two executives in the building industry were among those honored recently by the American Standards Association. They were Lester S. Corey, president of the Utah Construction Company, San Francisco, a member of A.S.A.'s board of directors, and Lloyd H. Yeager, general manager of the Gypsum Association Chicago, Ill., who received certificates of service in recognition of their work in the development of American standards.

• Bernard J. Gillroy, commissioner of housing and buildings of New York City, has received the 1951 annual award of the New York Association of Consulting Engineers. The award, a scroll, was made in recognition of Commissioner Gillroy's contributions during the past year to furthering the aims of the association, which is composed of 40 of the leading consulting engineering firms in New York City. Special tribute was paid to Commissioner Gillroy for his work as chairman of the New York City Bomb Shelter Committee, where he coordinated the efforts of architects, engineers, manufacturers, realty owners and public officials working on shelter problems.

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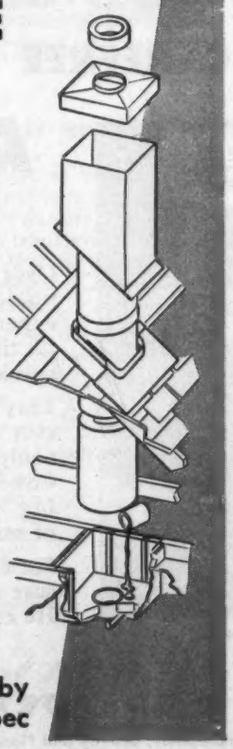

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COMPETITIONS

• Entries have been invited by the Broad Street and Merchants Association of Newark, N. J., in a competition for awards for the best building, the best renovation or remodeling job and the best office or store front constructed in Newark from 1945–1950. Categories to be judged — by a jury nominated by the Newark Chapter of the American Institute of Architects — are institutional, commercial, industrial and residential, including multi-unit dwellings. The competition is resumed after several years' lapse "to stimulate better building design." Queries should go to the Association, 744 Broad St., Newark 2, N. J.

• The Society of Plastics Engineers, Inc., is offering a prize of $50 for design of a membership lapel pin for S.P.E. The design must be suitable for fabrication from a plastics material and should be suitable also for use as a monogram on a ring or the letterhead on official S.P.E. stationery. Deadline for entries, in the form of a drawing and/or model, is November 1. Entries should be sent to National Headquarters, Society of Plastics Engineers, 409 Security Bank Bldg., Athens, Ohio.

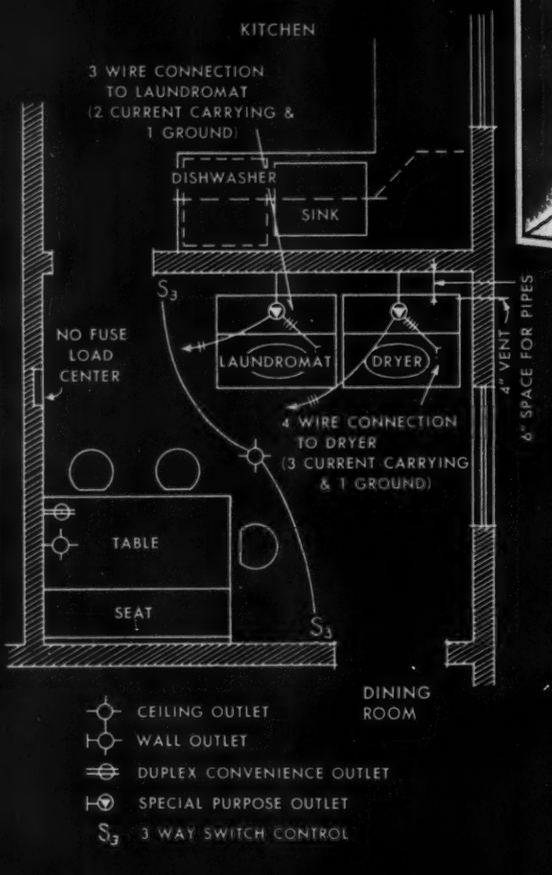
The third annual S.P.E. Prize Paper Contest also is under way, with prizes

(*Continued on page 240*)

DESIGN DETAILS

PLATE 7

Planning a Space-Saving Laundry



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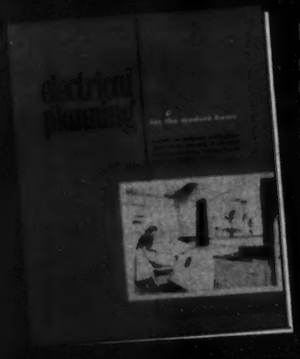

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Here is a book packed with basic planning data; important facts on kitchen and laundry planning; lighting that enhances decorative effects; and electric health and heating details people like. Also gives vital wiring data. A free copy will be sent on request.

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(*Continued from page 238*)

totaling $350 offered for technical papers contributing to the advancement of the plastics industry. Separate prizes are given by the local chapters, where all entries must first be submitted. Deadline for submission of entries to the sectional contests is October 15. Winners in the sectional contests will compete for national honors. Complete details are available from S.P.E., 409 Security Bank Bldg., Athens, Ohio.

F. M. BERNHAM REELECTED BY ILLINOIS ARCHITECTS

F. M. Bernham of Chicago was reelected president of the Illinois Society of Architects at the Society's 54th annual meeting in Chicago.

Other officers named were: Benjamin F. Olson, Chicago, first vice president; A. Reyner Eastman, Rockford, second vice president; Edgar D. Martin, Chicago, treasurer; Alfred F. Schimek, La Grange, secretary; Gerald L. Palmer, Chicago, financial secretary.

Robert W. Layer of Chicago and Alexander L. Levy, also of Chicago, were elected to three-year terms as directors.

The following members were named to the Board of Arbitration: M. R. Beckstrom, Moline; Clarence W. Doll, Mattoon; Thomas F. Imbs, Belleville; Granville S. Keith, Champaign; Charles Macklin, Springfield; Charles B. Rowe, Park Ridge; and David Clarence Wilson, Mount Vernon.

WHEN PLANNING ESSENTIAL BUILDERS HARDWARE *for...*

Rely on CIPCO for cooperation

Panelyte† meets V.A. Hospital specifications and is equally acceptable for all modern buildings —Utility, Good Looks, Long Life, coupled with pleasing colors, assure satisfaction. Panelyte Kick and Push Plates are available now, fabricated and packaged individually—complete with screws—by CIPCO. Plates can be furnished up to 48"x48"—either black or chocolate brown in 1/8" thick stock. Sample will be furnished on request.

CIPCO can furnish aluminum Door Pulls as illustrated. Alumilited surface makes for long life with lustrous beauty. While aluminum is restricted, we are in a position to make regular deliveries on these and a number of other aluminum items.

Your Architectural Hardware Consultant has our list of available Builders Hardware.

CIPCO Quality hardware, in every instance possible, is unit packaged making for easy sorting and installation on the job.

†Panelyte is a high pressure laminated thermosetting plastic sheet composed of synthetic resin impregnated layers.

Manufacturers of fine Hardware for over 25 Years.

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SESSIONS FOR ARCHITECTS AT HOSPITAL CONVENTION

Four sessions designed specifically for architects interested in hospital construction are included in the program of the American Hospital Association annual convention, scheduled September 17–20 in St. Louis.

The sessions are scheduled Monday and Tuesday, the 17th and 18th, and will cover such topics as "Construction during the Emergency," "Civilian Defense Considerations," and "New Trends in Hospital Design."

An architectural exhibit of hospitals will be a feature of the convention. The exhibit is open to hospitals placed under contract for construction during the last five years. The exhibit is sponsored jointly by the A.H.A. and the American Institute of Architects.

A.G.C. AND P.C. SET UP COOPERATIVE COMMITTEE

The Producers' Council and the Associated General Contractors of America have announced the formation of a national joint cooperative committee for the study of "problems of mutual interest."

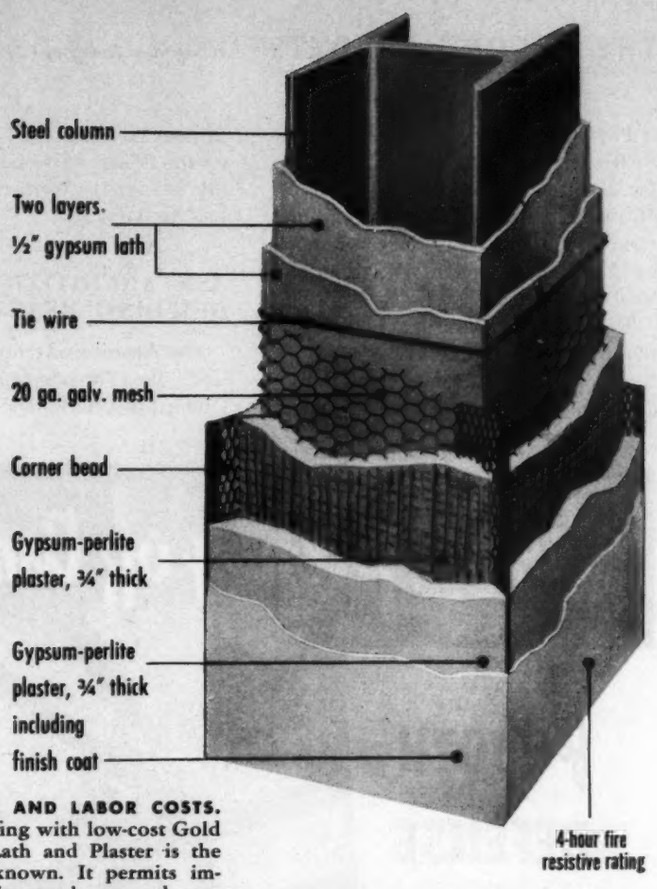
The announcement was made jointly by A. Naughton Lane, of the Monarch Metal Weatherstrip Corp., St. Louis, who is president of the Producers' Council, and Glen W. Maxon, of the Maxon Construction Co., Dayton, Ohio, who is president of A.G.C.

The purpose of the joint committee is to provide a medium through which producers of building materials and general contractors can cooperate to increase the efficiency of the industry. It will consider projects suggested by members of the committee, by members or chapters of either organization, by other groups in the construction industry, or by the public.

(*Continued on page 242*)

Save Steel, Cut Costs

with new, lighter weight Gold Bond column fireproofing



HERE IS a fast, efficient method for giving steel columns a fire-resistive rating up to 4 hours. Tests at a nationally recognized fire testing laboratory fully qualify the method for all building code requirements.

It gives two benefits—crucially important *now:* (1) it saves critical steel; (2) it cuts material and labor costs.

LOWERS DEAD-WEIGHT ONE-THIRD. The materials used—Gold Bond Gypsum Lath and Plaster mixed with lightweight plaster aggregates—weigh half as much as tile, and one-quarter as much as standard concrete for equivalent fire resistive ratings. The result is a reduction of as much as one-third in dead load weight, which reduces the size and cost of footings, foundations and structural frame.

CUTS MATERIAL AND LABOR COSTS. Column fireproofing with low-cost Gold Bond Gypsum Lath and Plaster is the fastest method known. It permits important savings in man-hours and construction time over usual methods.

When Gold Bond Gypsum Products are used 100% on a job, the responsibility for performance is centered in one reputable manufacturer—National Gypsum Company.

For details and specifications of steel column fireproofing with Gold Bond Gypsum Lath and Plaster, write Architectural Service Dept., National Gypsum Company, Buffalo 2, New York.

You'll build or remodel better with **Gold Bond**

SPECIFICATIONS

1 HOUR. Place Gold Bond ⅜" x 16" x 48" Perforated Gypsum Lath vertically against column flanges and bridging web spaces. Cut as required to box the column. Wrap and tie lath with double strand of 18 gauge tie wire 2" from ends of lath and at intermediate points not exceeding 15" c.c. At each corner, wire tie Gold Bond No. 1 Expanded Corner Bead to the wire ties encircling lath to form grounds for ½" of plaster. Mix Gold Bond Gypsum Plaster 1 part to 2½ parts of sand by weight. Apply in a doubleback operation to within ⅛" of ground and leave rough for finish.

1⅓ HOURS. Specifications are same as for one hour rating, but set grounds for ⅝" of plaster.

2 HOURS. Place Gold Bond ⅜" x 16" x 48" Perforated Gypsum Lath vertically against column flanges and bridging web spaces. Cut as required to box the column. Wrap and tie lath with double strands of 18 gauge tie wire 2" from ends of lath and at intermediate points not exceeding 15" c.c. At each corner, wire tie Gold Bond No. 1 Expanded Corner Bead to the wire ties encircling lath to form grounds for 1" of plaster. Mix Gold Bond Gypsum Plaster 100 lbs. to 2½ cu. ft. of perlite aggregate. Apply in a doubleback operation to within ⅛" of ground and leave rough for finish.

3 HOURS. Box column with two layers of Gold Bond ½" Long Length Gypsum Lath placed vertically against the column flanges and bridging the web spaces. Wrap column and lath with 1" hexagonal 20 gauge galvanized wire mesh tying cut ends to give continuity around the column. At each corner wire tie Gold Bond No. 1 Expanded Corner Bead to form grounds for 1" of plaster. Mix Gold Bond Gypsum Plaster 100 lbs. to 2½ cu. ft. of perlite aggregate. Apply in a doubleback operation to within ⅛" of ground and leave rough for finish.

4 HOURS. At each corner, wire tie Gold Bond No. 1 Expanded Corner Bead to the wire ties encircling lath to form grounds for 1½" of plaster. Mix Gold Bond Gypsum Plaster 100 lbs. to 2 cu. ft. of perlite aggregate for the scratch coat and 100 lbs. to 3 cu. ft. of perlite for the brown coat. Plaster in two separate coats, allowing the scratch coat to set hard before application of the brown. Brown coat to be applied in a doubleback operation to within ⅛" of ground and leave rough for finish.

NATIONAL GYPSUM COMPANY • BUFFALO 2, NEW YORK

Lath, Plaster, Lime, Sheathing, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards, and Decorative Insulation Boards.

 (*Continued from page 240*)

Possibilities for discussion include such subjects as material requirements for the defense program, standard forms of manufacturers' quotations, general terms of settlement with subcontractors, escalator clauses, product exhibits and local cooperation.

Two meetings a year are planned, and the first has been tentatively scheduled for September 25 in Washington. Co-chairmen of the committee are David S. Miller, The Kawneer Co., Niles, Mich., for the Producers' Council, and W. Murray Werner, the Werner Co., Shreveport, La., for A.G.C.

ASK ARCHITECTS TO AID BUILDING RESEARCH AIM

The American Architectural Foundation, Inc., a non-profit organization founded in 1942 for the advancement of "the art and science of building," has launched a campaign for increased funds with an initial plea to architects.

"The trustees realize," the Foundation's president, J. Frazier Smith, F.A.I.A., writes, "that too few people (especially the architects) interested in the welfare of our industry are familiar with the aims and purposes of the Foundation. Since these aims are fundamentally of interest to the professional practice of architecture, we believe the American architects should be given the first opportunity of contributing toward its welfare — then the building industry and the public at large will be approached."

The Foundation had its beginnings in the proffer by Albert Kahn of Detroit to the American Institute of Architects of the gift of a large sum of money for advancing the sciences and the arts in building. To ensure a taxfree status for Mr. Kahn's gift and others to follow, the A.I.A.'s counsel suggested formation of a separate Foundation dedicated solely to advancement of the building industry.

The aim of the Foundation is to be the coordinating agency for application of scientific and productive skills to the problems of architecture and building. Such projects as modular coordination, teacher-training institutes in architecture and other fine arts, author-fellowship or publication subsidies for architectural textbooks and the Octagon library of American architecture are within the scope of the Foundation. Its interests would include research projects as well, in such fields as fire resistive wall construction, acoustics, sound transmission and noise abatement, regional climatology studies, and many others.

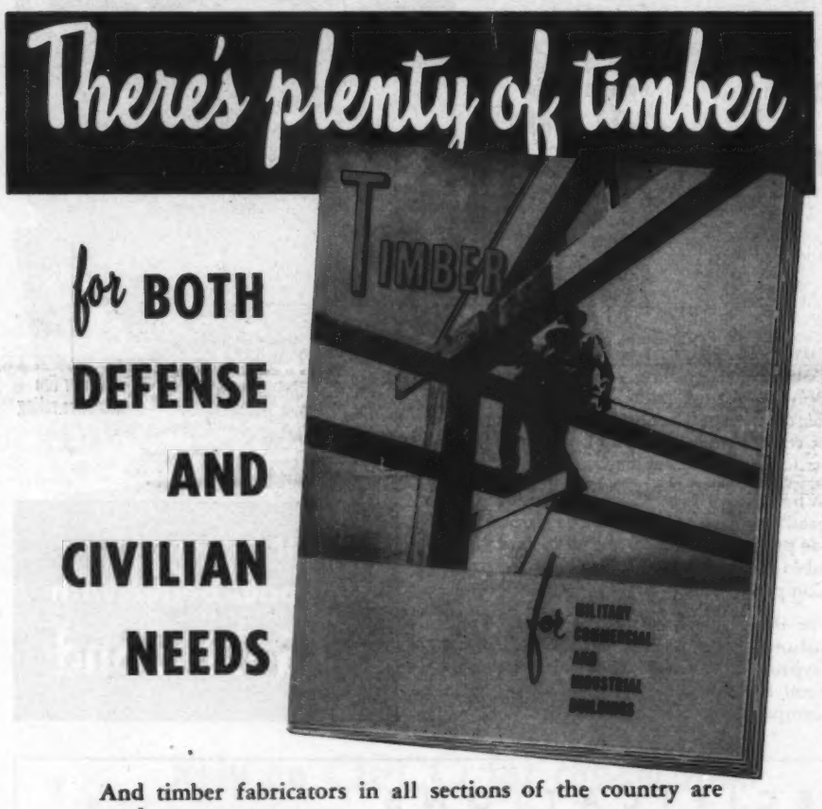
Detailed information is available from The American Architectural Foundation, Inc., The Octagon, Washington 6.

MIAMI BEACH HOTELS ARE HOTEL MANAGEMENT STUDY

For its eleventh annual hotel study, *Hotel Management* in its July issue featured a complete story on Miami Beach hotels.

The 172-page issue included studies of nine representative hotels. Background material for the feature was gathered by Editor Walter Voegele in two months of intensive, on-the-spot research.

(*Continued on page 244*)



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Our 20-page booklet "Timber for Military, Commercial and Industrial Buildings" illustrates the many types of jobs now being built with the Teco connector system, glued-laminated construction and Lamella construction.

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Both living room and kitchen of this hilltop home receive the treatment they deserve. Wide ANDERSEN WINDOWALLS welcome floods of sunshine and fresh air. They open a restful view. They add an extra dimension to modern living. These are Andersen Casement and Picture Window Units . . . beautiful windows made of beautiful, *insulating* wood. More than windows, they are also walls, tight barriers to unpleasant weather. They are WINDOWALLS—carefully engineered, *complete* window units.

*TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation • BAYPORT • MINNESOTA

FAMOUS FOR COMPLETE WOOD WINDOW UNITS

Write for Detail Catalog or Tracing Detail File; or see Sweet's files for specification data. WINDOWALLS *sold by millwork dealers.*

 (*Continued from page 242*)

TEXAS ARCHITECTS PLAN CONVENTION IN OCTOBER

The twelfth annual convention of the Texas Society of Architects will be held in San Antonio October 24–26, with headquarters in the historic old Menger Hotel, recently remodeled.

Registration will begin at 4:00 p.m. October 24, and the West Texas Chapter of the American Institute of Architects, host chapter for the convention, will give a cocktail party afterwards.

Besides the business sessions, there will be two seminars on "Mechanical Equipment of Buildings," a student competition and exhibit and a generous quota of social events.

Marvin Eickenroht is general chairman and coordinator for the convention, with Bartlett Cocke and Reginald Roberts as arrangements co-chairmen.

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SPRINKLERS
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A PHONE CALL BRINGS FULL DETAILS!
The big reduction in FIRE insurance premiums is a major reason for installing GLOBE Automatic Sprinkler systems. GLOBE Automatic Sprinklers discover and stop FIRE. Ask our nearest office how much they can save you.
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1951 SETS SEVEN-MONTH HIGH; JULY AWARDS OFF

Construction contracts awarded in the 37 states east of the Rockies for the first seven months of 1951 set a new high for that period with a total of $10,187,939,000, F. W. Dodge Corporation said.

The total for seven months of 1951 was 23 per cent over the previous record set in the first seven months of 1950, with awards of $8 billion plus.

Construction contract awards in July of this year, however, slackened somewhat compared with June. The July total of $1,379,830,000 was down two per cent from the previous month and three per cent from July 1950.

Residential awards of $548,144,000 in July were down 19 per cent from July 1950, though they rose one per cent over the June 1951 level. Non-residential awards at $536,533,000, on the other hand, were three per cent under the June 1951 figure and 10 per cent over the July 1950 level. Public and private works and utilities at $295,153,000 were five per cent below June but 14 per cent above July a year ago.

For seven months, residential awards were off two per cent, non-residential up 65 per cent, public and private works and utilities up 10 per cent from 1950.

HOME BUILDERS PLAN NATIONAL HOME WEEK

Nationwide observance of National Home Week September 9–16 spotlights achievements of the home building industry, and the National Association of Home Builders was planning to make it "a gigantic educational effort to enable the American public to learn more about home building and home ownership."

Civic celebrations, exhibits of building methods and construction projects, exhibit homes, parades, lectures, special newspaper displays and radio presentations were all part of the schedule for the week.

The Home Week observance has been sponsored annually by N.A.H.B. since 1948.

JOHN W. CROSS, 73; NEW YORK ARCHITECT

John Walter Cross, 73, F.A.I.A., died July 25 at Hot Springs, Va.

Mr. Cross, whose home was in New

(*Continued on page 246*)

GET THIS SENSATIONAL NEW BOOK ON...

COLOR and LIGHTING

A valuable, non-technical treatise prepared by Sylvania in conjunction with leading color analysts

Here is one of the most complete and fascinating books on color and lighting ever printed.

Written in layman's language it explains inter-relation of light and color. Enables you to predict how colors will appear under different light sources. Covers such subjects as Reflection and Absorption . . . Complementary colors . . . Color temperature . . . How we see color.

Shows actual color values best suited to each of Sylvania's 7 different white-tone fluorescent tubes.

It explains color fatigue, color systems, color harmony and much other information of importance to architects, lighting men, and interior decorators.

You'll agree this book is really an outstanding value. But, the supply is limited. Don't miss this offer! Mail the coupon and 50¢ for your copy NOW!

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FLUORESCENT TUBES, FIXTURES, SIGN TUBING, WIRING DEVICES; LIGHT BULBS; RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; PHOTOLAMPS; TELEVISION SETS

SYLVANIA ELECTRIC PRODUCTS INC. 1901-1951 FIVE DECADES OF PROGRESS 50th ANNIVERSARY

(*Continued from page 244*)

York City, was a graduate of Yale University, the Columbia University School of Mines and the Ecole Nationale et Speciale des Beaux Arts, Paris.

In 1907 he formed the firm of Cross and Cross, Architects, with his brother Eliot, who died in 1949. The firm was dissolved in 1942. In 1946 he formed the firm Cross and Son, 505 Park Avenue, New York City, with his son, H. Page Cross.

New York buildings designed by Mr. Cross include the Barclay Hotel, the City Bank Farmers Trust Company building, the Stone & Webster building, the Guaranty Trust building at Fifth Ave. and 44th St., the Douglas Elliman building, the Chickering and Postum buildings, the Harriman building, the Lee Higginson and Company building, the General Electric building and the Aetna Life Insurance building. He planned the Place de la Concorde, in Paris, and the Walter Camp Memorial at Yale University.

Mr. Cross was a member of the National Commission of Fine Arts from 1928 to 1932 and of the Art Commission of New York City from 1926 to 1929. He was a member of the National Institute of Arts and Letters, of the Beaux Arts Institute of Design and of the Sociale des Architectes Diplome par le Gouvernement de France and a fellow of the American Institute of Architects.

DEAN PEABODY JR. DIES; AUTHORITY ON CONCRETE

Dean Peabody Jr., 63, professor of architecture in the Harvard University Graduate School of Design, died August 7 at his summer home at Hubbardston, Mass.

Professor Peabody, a member of the faculty of the Massachusetts Institute of Technology for more than 35 years following his graduation in 1910, was known as a pioneer in the testing of concrete for building. His book, "Design of Reinforced Concrete Structures," was a standard text.

He began teaching at Harvard as a visiting lecturer in 1946 and became professor of architecture in 1947.

WILLIAM LEHMAN, 77; ARCHITECT IN NEWARK

William E. Lehman, Newark, N. J., architect, died July 30 at the age of 77.

Mr. Lehman designed the Medical Tower Building and the Hotel Douglas and was co-architect of the Federal Postoffice and Courts Building, all in Newark. He also designed a number of motion picture theaters for Warner Brothers in several Eastern cities.

CORRECTION

The Record Reports section of the July issue of the RECORD listed a new address for Linder, Hodgson and Wright, Architects, of Denver, Colo. This listing was an error which the RECORD deeply regrets. Linder, Hodgson and Wright have not changed their address and continue to have their offices at 507 Insurance Building, Denver, Colo.

AT THE 15TH ANNUAL MODEL HOMES EXHIBIT ON ATLANTIC CITY'S FAMOUS CENTRAL PIER

More than 100,000 potential home owners are seeing this Follansbee Terne Metal Roof. Its impressive styling and color enhance the beauty and increase the value of this small home. It can do the same for *any* home—large or small.

No other roofing material gives the architect the freedom in roof design possible with Follansbee Terne Metal. Starting with the three standard types of Terne roofs—Standing Seam, Flat Locked Seam and Ribbed or Batten Seam, you can develop individual roof styling for any type of building. And you can bring color—*any color*—into your design to harmonize with the house exterior and its surroundings.

Look to Follansbee Terne Metal—the roofing with a future—to put the crowning glory on your latest designs.

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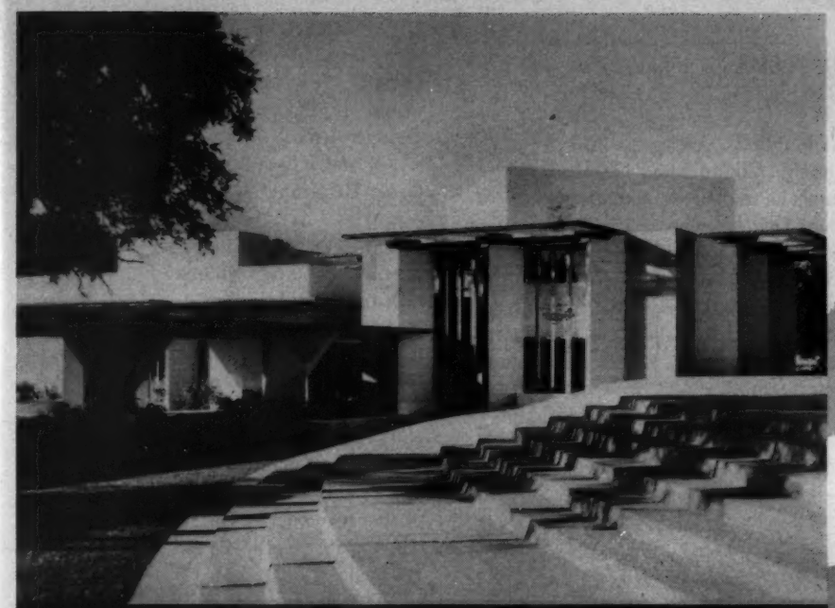
SEAMLESS TERNE ROLL ROOFING • COLD ROLLED STRIP
POLISHED BLUE SHEETS AND COILS

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. *Sales Agents*—Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada. *Mills*—Follansbee, W. Va.

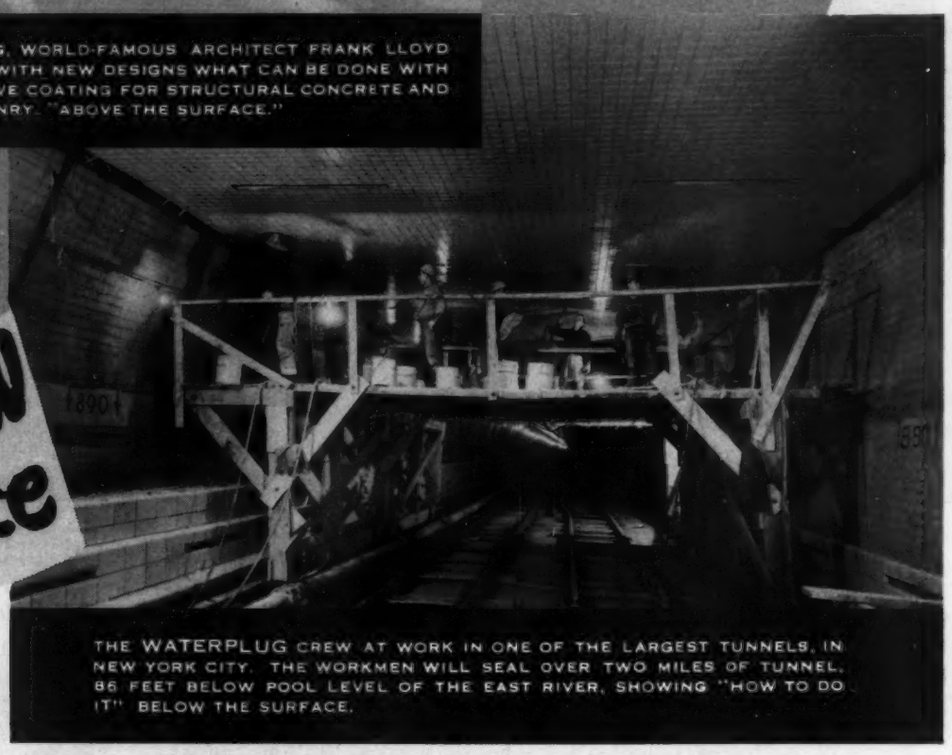
Follansbee Metal Warehouses
Pittsburgh, Pa., Rochester, N. Y., and Fairfield, Conn.



Above Surface

ON THIS BEAUTIFUL BUILDING, WORLD-FAMOUS ARCHITECT FRANK LLOYD WRIGHT HAS DEMONSTRATED WITH NEW DESIGNS WHAT CAN BE DONE WITH THOROSEAL AS A PROTECTIVE COATING FOR STRUCTURAL CONCRETE AND MANUFACTURED BLOCK MASONRY. "ABOVE THE SURFACE."

Below Surface



THE WATERPLUG CREW AT WORK IN ONE OF THE LARGEST TUNNELS, IN NEW YORK CITY. THE WORKMEN WILL SEAL OVER TWO MILES OF TUNNEL, 86 FEET BELOW POOL LEVEL OF THE EAST RIVER, SHOWING "HOW TO DO IT" BELOW THE SURFACE.

Today, the architectural and engineering profession realize the importance of substantial materials to co-ordinate, seal and beautify their general construction plans; THOROSEAL, to fill, seal and beautify any type masonry, above or below the surface; WATERPLUG, to prevent and correct every type of water problem, no matter how great the pressure. The THORO System products give to the architect and engineer, materials of sufficient structural strength with which they can plan with confidence and satisfaction.

Standard Dry Wall Products

New Eagle, Pennsylvania U.S.A.

Write for Our No. 17 Brochure with Chart

D. G. McKinstry, CBC staff architect, of Montreal, was the architect in charge; and CBC staff architects and engineers provided the planning and engineering services.

More Building Competitions Urged by Massey Commission

Architectural competitions are the cure for the stodginess of Canada's official buildings. At least that's what the Massey Commission, more properly known as the Royal Commission on National Development in the Arts, Letters and Sciences, prescribes.

Design in open competition of proposed buildings would, the Commission believes, help avoid the mediocrity "which so easily besets government architecture."

John Roxburgh Smith, president of the Royal Architectural Institute of Canada, welcomes this suggestion. "It would provide an incentive for our younger architects to establish themselves and it is an accepted practice in Great Britain as well as in many other countries," Mr. Smith says.

"The widespread adoption of this procedure could extend our architectural horizons by bringing to light many building ideas. . . . The R.A.I.C. and its component provincial societies have already established means for holding competitions efficiently and economically. As a result of the Massey Commission recommendations, it is hoped that more public bodies will avail themselves of this service."

Announce Student Winners Of Architectural Contest

Hart P. V. Massey, son of Rt. Hon. Vincent Massey, chancellor of the University of Toronto, has been awarded the Pilkington Glass Scholarship for his thesis and design for a National Gallery at Ottawa.

This prize entitles him to a year's study in England and on the continent. It is valued at $1500, plus all expenses to and from England.

The contest was open to the two top graduating students in the schools of architecture of each of four Canadian universities. A $100 second prize went to C. A. Tiers of the University of British Columbia and a third prize of $50 to J. Rowan of McGill University.

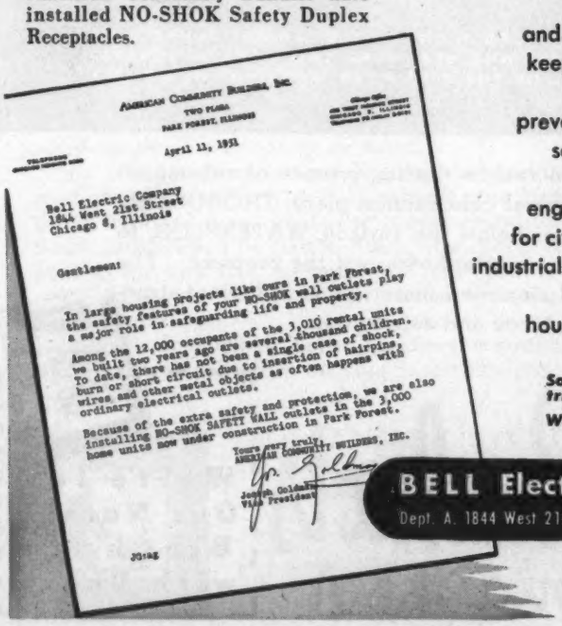
Montreal Street Is Named For Architect John Ostell

Montreal perpetuates the memory of her leading architects by giving their names to new parks and streets. Latest to be honored is John Ostell (1813–1892).

The official announcement reads: "Born in London, he came to Montreal in 1831. He was a surveyor, engineer and architect, and from 1840 to 1845 was inspector of bridges and roads in Montreal. He practiced the profession of architecture and built several important buildings, including the Customs Building, the facade of Sault-au-Recollet Church, Notre Dame de Grace, St. Ann's Church, the towers of Notre Dame Church, the front of St. James Church and the Grand Seminary. It has been held appropriate to honor this great architect of many Montreal landmarks by naming a street after him."

(*Continued on page 250*)

When the additional 3,000 home units now under construction are completed, this suburban community will have a population of 25,000, approximately half of which will be children. To safeguard these thousands of youngsters, American Community Builders have installed NO-SHOK Safety Duplex Receptacles.



AMERICAN COMMUNITY BUILDERS, INC.
TWO PLUS
PARK FOREST, ILLINOIS

April 11, 1951

Bell Electric Company
1844 West 21st Street
Chicago 8, Illinois

Gentlemen:

In large housing projects like ours in Park Forest, the safety features of your NO-SHOK wall outlets play a major role in safeguarding life and property.

Among the 12,000 occupants of the 3,010 rental units we built two years ago are several thousand children. To date, there has not been a single case of shock, burn or short circuit due to insertion of hairpins, wires and other metal objects as often happens with ordinary electrical outlets.

Because of the extra safety and protection, we are also installing NO-SHOK SAFETY WALL outlets in the 3,000 home units now under construction in Park Forest.

Yours very truly,
AMERICAN COMMUNITY BUILDERS, INC.

JG:ag

No-Shok Safety Duplex Receptacles afford added protection to property and lessen fire hazards by keeping out metal objects, dust, water, etc.—prevent shocks and burns—save lives. Specified by leading architects and engineers all over the U.S. for civilian housing projects, industrial and farm installations and Army and Navy housing. R.E.A. approved.

Sold through leading electrical wholesalers.

Write for particulars today!

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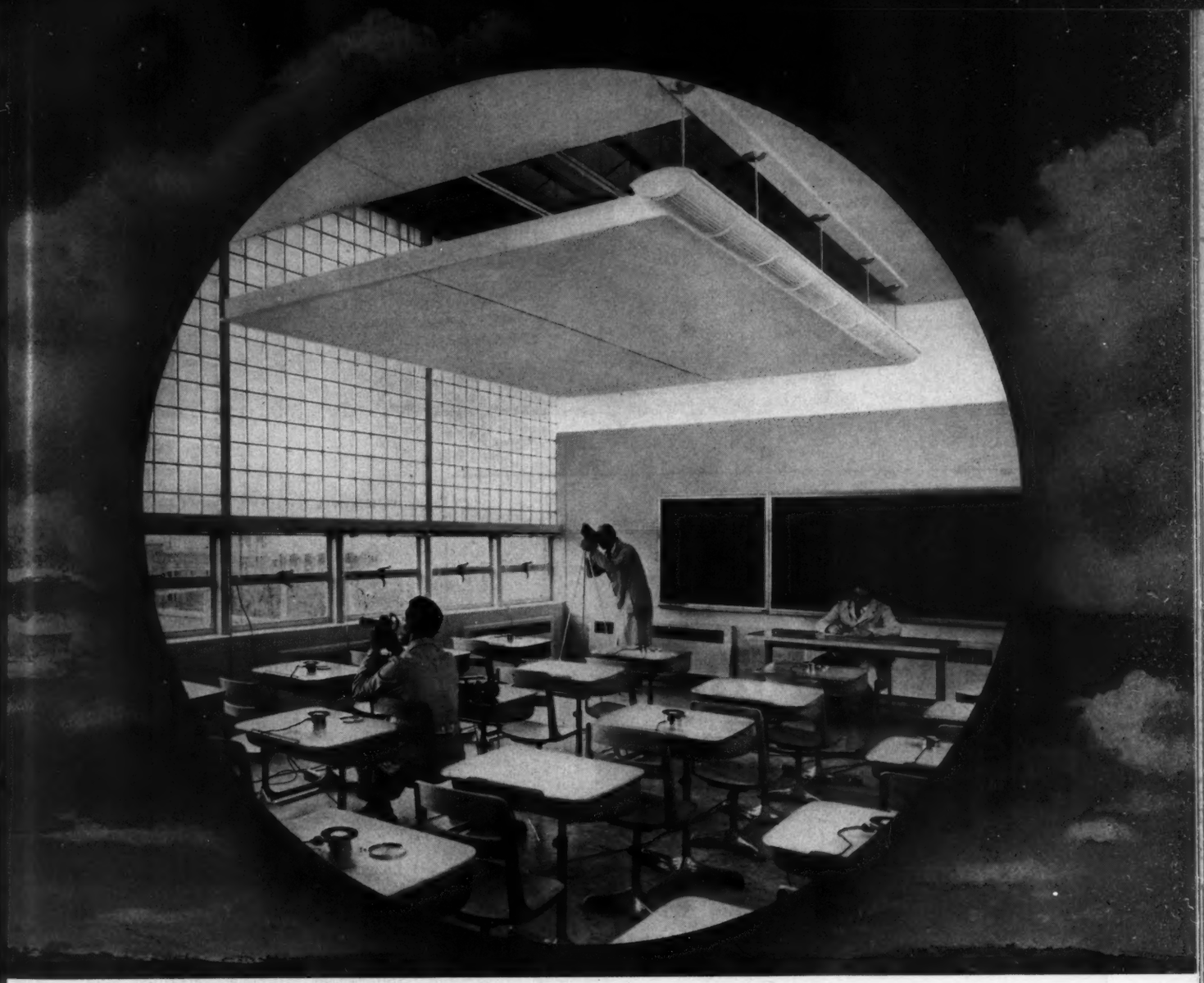
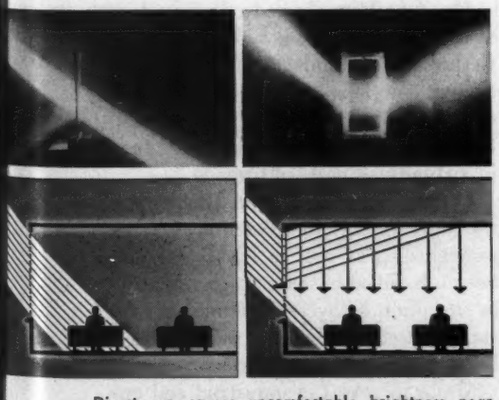


Technicians studying daylight illumination in the Test Room section of the Daylight Laboratory. Special light meters on desk tops read and automatically record illumination twenty-four hours a day throughout the year.



Direct sun causes uncomfortable brightness near windows, extreme contrast in other parts of room. Insulux Fenestration directs and spreads daylight to ceiling, keeps brightness at comfortable levels.

ONLY "DAYLIGHT" GOES TO SCHOOL HERE FOR Daylight Engineering STUDY

IN THIS SPECIAL one-room "schoolhouse," built by the Daylighting Laboratory of the Engineering Research Institute, University of Michigan, daylight is studied, tested, optical principles researched to learn how to get the highest *quality* light from daylight . . . to make it do a better lighting job.

To permit study of daylight in rooms of varying sizes and shapes, both ceiling and wall sections are movable. Ceiling sections may be lowered or tilted . . . wall sections are movable to permit variations in room size. Special light meters automatically record illumination.

One significant better-daylighting result is the development of Insulux Light Directing Glass Block No. 363. This new block controls light so efficiently that a building virtually "turns with the sun." Entire glass areas transmit free daylight from early morning to late afternoon.

A Daylight Engineer will be glad to show you the benefits the new Insulux Glass Block® can bring to your structures. Just write: Daylight Engineering Laboratory, Dept. AR9, Box 1035, Toledo 1, Ohio . . . Insulux Division, American Structural Products Company, Subsidiary of Owens-Illinois Glass Co.

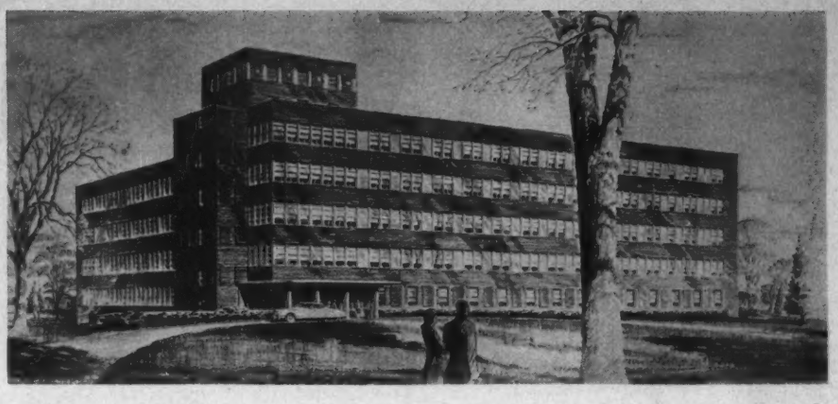
INSULUX GLASS BLOCK

INSULUX FENESTRATION SYSTEMS

—by the leaders of Daylight Engineering

CANADA

(*Continued from page 248*)



Aluminum-faced panels, interchangeable with windows and molded to repeat their muntin bars, make for flexibility in the Guelph, Ont., General Hospital, which has 160-bed capacity in 90,000 sq ft. Plan is L-shaped. Marani & Morris were architects

Amtico
RUBBER FLOORING

The makers of famous Amtico Rubber Flooring announce that henceforth American Tile and Rubber Co. will be known as

AMERICAN BILTRITE

RUBBER COMPANY

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Building Up 101 Per Cent For Six Months of 1951

Construction contract awards for the first six months of 1951 rocketed to a stunning 101 per cent over the total for the first six months of 1950.

MacLean Building Reports said the six months total this year was $1,178,305,800 against $586,083,600 recorded for the same period last year. It is an all-time six-months record; the billion mark was topped for the first time in the 12-months 1949 total and last year by the nine-months figure.

Star player in this year's performance was June, with $382,300,800 worth of business — 132 per cent more than the same month's $164,651,100 a year ago.

No fewer than 23 big construction jobs — worth $1 million or more — got under way in June. One of the largest was the tremendous hydro-electric project long planned for Niagara Falls. Others were a vast chemical plant for Edmonton and a power development in the Lake St. John district of Quebec. Direct defense awards totaled over $12 million.

House building showed a decisive drop as a result of federal government efforts to throttle the number of new starts. Although previous months showed hesitancy, the downward trend in this classification was firmly established in June in virtually all parts of Canada.

Commercial construction, though bolstered by the major part of direct defense expenditures as well as by schools and hospitals, failed to share proportionately in the jump in overall volume. A substantial decline in Ontario was cancelled by small gains in other regions.

Major increases in industrial and engineering awards continued, with industrial construction (up 250 per cent for the six months) making its biggest gains in the west, and engineering (up 322 per cent) its biggest gains — largely because

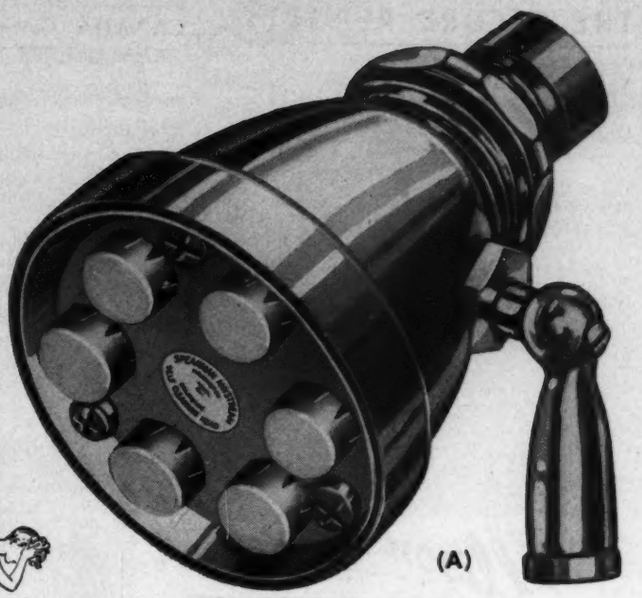
(*Continued on page 252*)

This Non-Clog Water-Saving Shower Head Pays For Itself!

Normal Spray for Relaxation

Needle Spray for stimulation

Flood Spray for no-splash rinsing



(A)

THE way it pays for itself is one of the BIG reasons thousands of Speakman Anystream Shower Heads have been installed everywhere. Hot water savings can be as high as 50%. There are plenty of other pluses, too . . . self-cleaning, non-clogging, adjustable spray gives a full-pattern shower. Anyone can choose the exact type of shower they like best—needle, normal or flood—by turning the lever handle.

For steady-temperature bathing the Sentinel Balanced Pressure Mixing Valve, combined with the Anystream Head, is the ideal shower.

The Sentinel eliminates sudden surges of icy cold or steaming hot water caused by fluctuating supply line pressures due to down-the-line water stealing. The f-l-o-a-t-i-n-g piston unit that does the job is easily removed for servicing *without shutting off* the water supply to the valve.

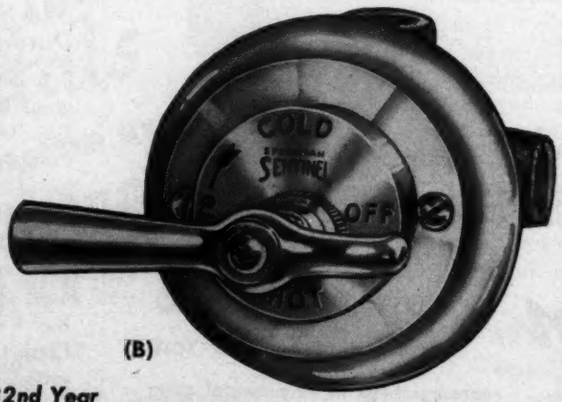
Sturdily built Speakman Anystream-Sentinel Showers last a lifetime of strenuous use . . . always operate freely . . . provide the best in shower bathing. Write for illustrated literature S-47 and S-58.

Specify Speakman-Sentinel Showers . . . for comfort, economy and easy maintenance.

(A) SPEAKMAN Anystream Shower Head S-2250 Model 1*(Patented). Integral ball joint . . . concealed volume control. Pipe size ½". Can be equipped with Allen Set-Screw to prevent vandalism.

*(Pat. No. 2534549—Dec. 19, 1950)

(B) SPEAKMAN Concealed *Sentinel* Balanced Pressure Mixing Valve S-1735 (Patented) . . . easy-reading dial . . . working parts renewable from face of valve. Pipe size ½".



(B)

In Our 82nd Year

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SHOWERS AND FIXTURES

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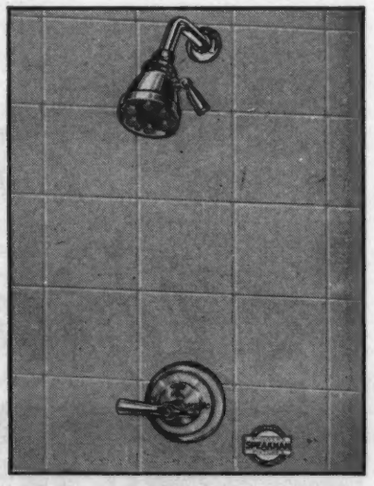
SEE OUR CATALOG IN SWEET'S



S-1700 Speakman Concealed Sentinel Shower ½" I. P. S.

CANADA (*Continued from page 250*)

of the Niagara Falls hydro project — in Ontario.

Housing Starts Decline in First Five Months of 1951

Reflection of current mortgage-lending restrictions is found in the number of house starts made during the first five months of the year. The total was down four per cent, from 30,084 in 1950 to 28,951 in 1951.

On the other hand, more houses were completed in the first five months than in the corresponding period last year. Figures are 32,085 and 29,441 respectively. Total number under construction at the end of May was 55,903, compared with 58,130 at the same time in 1950.

The Door that lets
TRAFFIC through QUICKLY

Ellison
ELLISON BRONZE CO.
Jamestown, New York
representatives in 71 principal cities

the BALANCED DOOR

Establish Fellowships for Community Planning Study

Biggest shortage in the field of municipal administration has been that of professionally qualified community planners. Now, with the announcement of nine $1200 fellowships to be awarded by Central Mortgage & Housing Corp. for graduate study in this field at the Universities of McGill, Toronto, Manitoba or British Columbia, exponents of better land use and environmental control can take heart.

C.M.H.C. President D. B. Mansur explains: "The purpose of these fellowships is to aid students in the social sciences, architecture or civil engineering in receiving advanced education which will enable them to enter the field of community planning and allied occupations either in a professional capacity or in public service."

Straw for Insulation Is Tested at Prairie Lab

Much of the interesting research and development work carried on by the Prairie Regional Laboratory of the National Research Council at the University of Saskatchewan aims at encouraging greater utilization of farm products in construction and other industries.

One example: some 400 experimental insulating boards from wheat straw have been made and tested. It appears that boards having higher tensile and flexural strength than present commercial products of this type can be readily prepared.

An attempt is being made to develop a mechanical pulping process for straw which should reduce costs by savings in chemicals, steam and water as well as through increased yields of pulp.

New Subdivision Planned in Ontario "Wilderness" Town

A new community development program has been announced at Terrace Bay, Ont., by LongLac Pulp & Paper Company Ltd. Major feature is the opening of a new subdivision and construction of 35 houses at an estimated cost of $430,000.

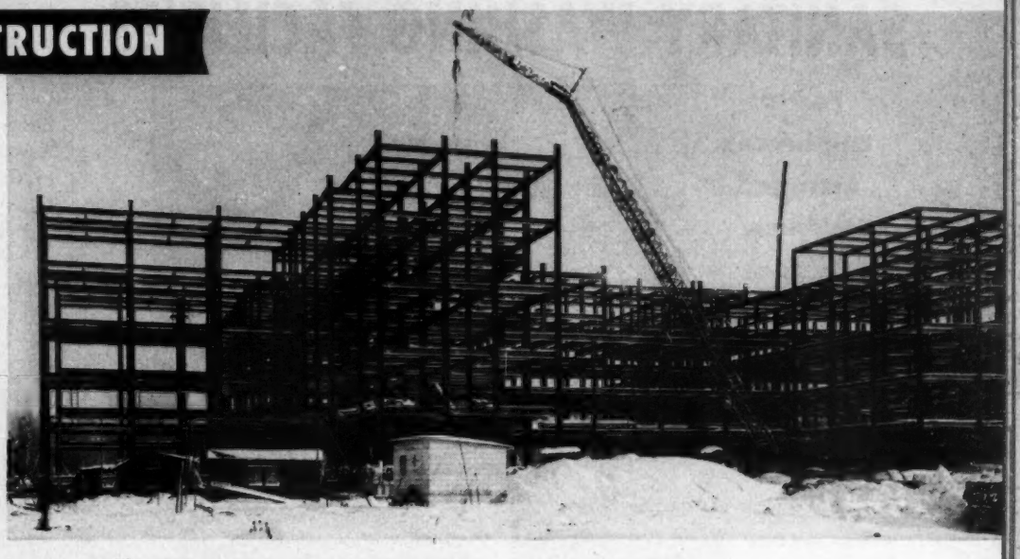
Carved out of the wilderness on the north shore of Lake Superior, Terrace Bay was founded in 1946 by Kimberly-Clark Corporation as a townsite for its subsidiary, LongLac Pulp & Paper. The new development will continue the "carving" process, but will adhere to the original plan of creating a community laid out so as to preserve the beauty of its forest setting.

(*Continued on page 254*)

VETERANS ADMINISTRATION HOSPITAL, DENVER, COLORADO. American Bridge Company fabricated and erected the structural steel for main hospital building, 325' x 325', 9 stories high with penthouse; also the boiler house, the chapel, manager's building, apartment building, nurses' quarters and attendants' quarters. Total weight, 2,600 tons. General Contractor, Del E. Webb Construction Co. Plans by Veterans Administration Construction Service.

RIVETED CONSTRUCTION

WELDED CONSTRUCTION



VETERANS ADMINISTRATION HOSPITAL, MINNEAPOLIS, MINNESOTA. Fabricated and erected by American Bridge Company. Project included hospital building No. 43—an 8-story structure, with setback and penthouse, and #43-1, an 11' wide x 76' long, 4-story connecting corridor, and a 61' x 117' x 13' 8" addition to laundry building. Hospital building #43 was of welded construction throughout. Total weight of steel, 2,100 tons. General Contractor, J. D. Hedin Construction Company. Plans by Veterans Administration Construction Service.

Steelwork for both hospitals

FABRICATED AND ERECTED BY

AMERICAN BRIDGE COMPANY

AS SPECIFIED

THE two big hospitals shown above are typical of the many steel buildings fabricated and erected by American Bridge Company. Each is a good example of its particular type of construction.

American Bridge Company plays no favorites when it comes to riveted or welded construction. We have the skilled personnel and equipment to do both types with exacting precision, thoroughness and speed. The all-welded Minneapolis job was erected during the severe Minnesota winter and is evidence of the willingness and ability of American Bridge Company to field-weld structures any time, anywhere!

If you would like to know more about the advantages of American Bridge Company fabricated and erected steel construction, just call our nearest office.

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

Contracting Offices in: AMBRIDGE · BALTIMORE · BOSTON · CHICAGO · CINCINNATI CLEVELAND · DENVER · DETROIT · DULUTH · ELMIRA · GARY · MINNEAPOLIS · NEW YORK PHILADELPHIA · PITTSBURGH · PORTLAND, ORE. · ST. LOUIS · SAN FRANCISCO · TRENTON UNITED STATES STEEL EXPORT COMPANY, NEW YORK

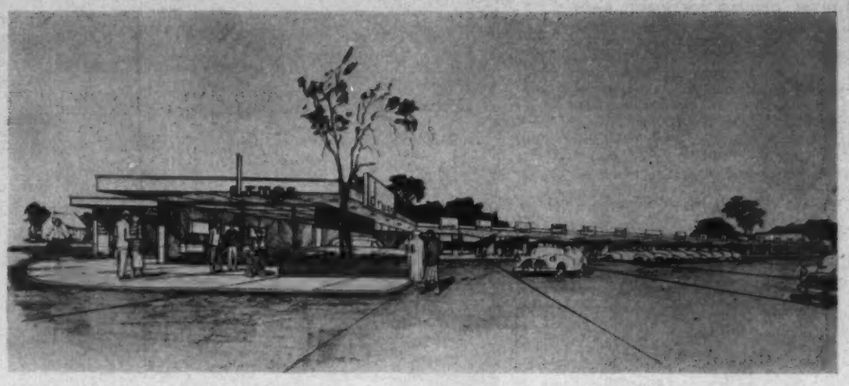
USS TRADE MARK

AMERICAN BRIDGE

UNITED STATES STEEL

CANADA

(*Continued from page 252*)



Shopping development at Weston, Ont., contains 15 stores and a bank. Space for off-street parking is generous. Leo E. Venchiarutti of Toronto is architect for center, which uses non-critical materials

Provide Maximum In SANITARY WASHING FACILITIES

For All Employees Men and Women

Bradley Full Circle Washfountains serve 8 to 10 persons simultaneously —each with clean running water from central sprayhead. The standard in sanitary fixtures for over 30 years. With foot-control, water flow is cut off automatically when washers leave.

Men often wash to the waist in the clean running water provided by Bradley Washfountains

No Faucets to Touch—No Chance of Transmitting Germs

● Sanitary Bradleys are used throughout industry—in large and small plants. They provide maximum facilities in minimum space, reduce by 70% piping connections and cut water consumption. With foot-control there are no contacts with faucets so no chance of transmitting germs. The large bowl is self-flushing to prevent collection of used and contaminated water.

To save time and guard health, add Bradleys now. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan St., Milwaukee 1, Wis.

For Small Washrooms Install Bradley DUO-Washfountains

Ideal for executive and clerical washrooms—in cafeterias, laboratories, work shops. Two persons served by sprayhead. Foot-control eliminates faucets and prevents water waste.

Send for free illustrated Catalog 4701.

BRADLEY washfountains

Distributed through Plumbing Wholesalers

Why Blighted Areas? Article Discusses Causes and Costs

An interesting article by Leonard Gertler, "Economic Problems of Urban Redevelopment," is featured in the *Community Planning Review*, a new publication of the Community Planning Association of Canada. The author examines the causes and costs of the blighted areas that characterize many of our cities and towns.

Not so long ago, Mr. Gertler says, economists argued that there is inherent order in the land use pattern, created by the unhampered interplay of economic forces. Homer Hoyt's analysis in 1939 undermined this complacency and showed the destructive effects of spontaneous decentralization; and Mr. Gertler has undertaken to substantiate Hoyt's conclusions by a well-documented study of the current tendencies in Montreal and other Canadian cities. He finds that business districts become more intense centrally, string out along the arteries, and also form colonies in the suburbs. Industries move out, both to special factory districts and to the peripheries. Residents vacate some of the less desirable inner areas as transport facilities permit. Average taxable incomes fall. In six typical Canadian cities a quarter to a third of the houses are not sub-standard.

In the United States a third of the metropolitan population live in slums and blighted dwellings, commit 45 per cent of the major crimes, account for 55 per cent of juvenile delinquency and 50 per cent of disease, and absorb 45 per cent of city costs, while they contribute only six per cent of city property revenue. Mr. Gertler claims that these relationships are just as true for Canada. "Consideration of the economic effects of blight demonstrates that its elimination is necessary for the general well-being of the community."

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN FLOOR

SENIOR HIGH SCHOOL, OAK RIDGE, TENNESSEE

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS

Skidmore, Owings & Merrill, *Architects and Engineers*

East Tennessee Tuberculosis Hospital, Knoxville, Tenn. Architects and Engineers: Baumann and Baumann; Will W. Griffin and Shi G. Goodwyne, Associates. Heating Contractors: John F. Humphrey Company, Knoxville. Medical Consultants: Dr. R. H. Hutcheson, Commissioner of Public Health and Secretary of the Tennessee TB Commission, and Dr. W. W. Hubbard, Director of Hospital Service for the State of Tennessee.

Four-Zone Steam Heating For Modern

180-BED TB HOSPITAL

Heating specifications for the new East Tennessee TB Hospital stated: *"There shall be continuous flow of steam to the system with full or fractional heating of radiators at all times when heat is on."*

A 4-zone Webster Moderator System of Steam Heating meets this specification, supplying steam according to need for nursing floors, service and treatment units, operating rooms and laboratories.

The new Hospital is an important unit in the Tennessee plan, conceived by Governor Browning in 1937, to coordinate new and existing state-owned tuberculosis hospitals.

In addition to supplying 180 additional beds, the new building provides for surgical and laboratory work for all TB institutions in the area north of Knoxville.

The new Hospital is proving in operation the soundness of the designers' conception. Want some information on Webster's money saving ideas for hospital heating? Call in the Webster Representative or write us.

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WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

BUILDING CONTROLS

(Continued from page 11)

It generally was agreed that the minimum specifications would permit NPA to keep a close watch on the controlled supplies. But one of the most important, though less direct, effects of the order will be the stimulation of search for substitutes. For example, two tons of carbon steel is a small portion for construction of many commercial type projects, especially when it includes all structural needs.

House Building Hit Less

Home builders did not appear to be quite so severely restricted, although their self-authorization totals will have them looking for substitutes for copper and aluminum in particular. No self-certification is allowed at all for multi-unit residences — those over four units each. In other words, all applications for apartment house construction will have to be processed through the Housing and Home Finance Agency, with no builder permitted to write his own ticket on any portion of materials needed.

The home builders could have been hit much worse, however, than they were. One NPA official estimated that under the new order, homes built under the self-authorization provisions could run up to $15,000 to $18,000 in cost depending upon location in the country. He said the average single-family unit requires one ton of steel. Regarding copper, he said HHFA had told the NPA authorities that a copper water piping system in the average house would require 125 lb of material. On this basis the decision was made to establish an alternate on steel and copper items for one-, two- three- and four-family dwellings. It works out this way:

Materials for Housing

A builder scheduling a single-family residence, if he uses steel pipe for water distribution, is allowed to self-certify 1800 lb of steel and 35 lb of copper. If he specifies copper for the water system, he then is permitted to authorize automatically 1450 lb of steel and 160 lb of copper. All copper figures embrace copper-base alloy as well.

The amounts increase progressively, but not in direct proportion, for two-, three- and four-unit dwellings. For ex-

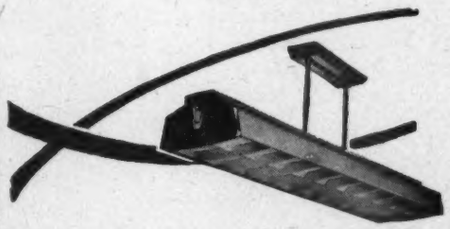
(Continued on page 258)

KAYLINE
the one source lighting line

CHOOSE THE FINEST

...in modern lighting fixtures from Kayline's big, illustrated catalogue No. 50. You'll find in this 64-page catalogue a large assortment of incandescent, fluorescent and slimline fixtures for every type of lighting . . . commercial, industrial and residential — lighting fixtures that have beauty in design, quality and a price that's low. Write on your business letterhead for your copy of Kayline's catalogue No. 50.

See Sweet's Architectural File Section 31A-12



KAYLINE
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THE KAYLINE CO.
2480 East 22nd St.
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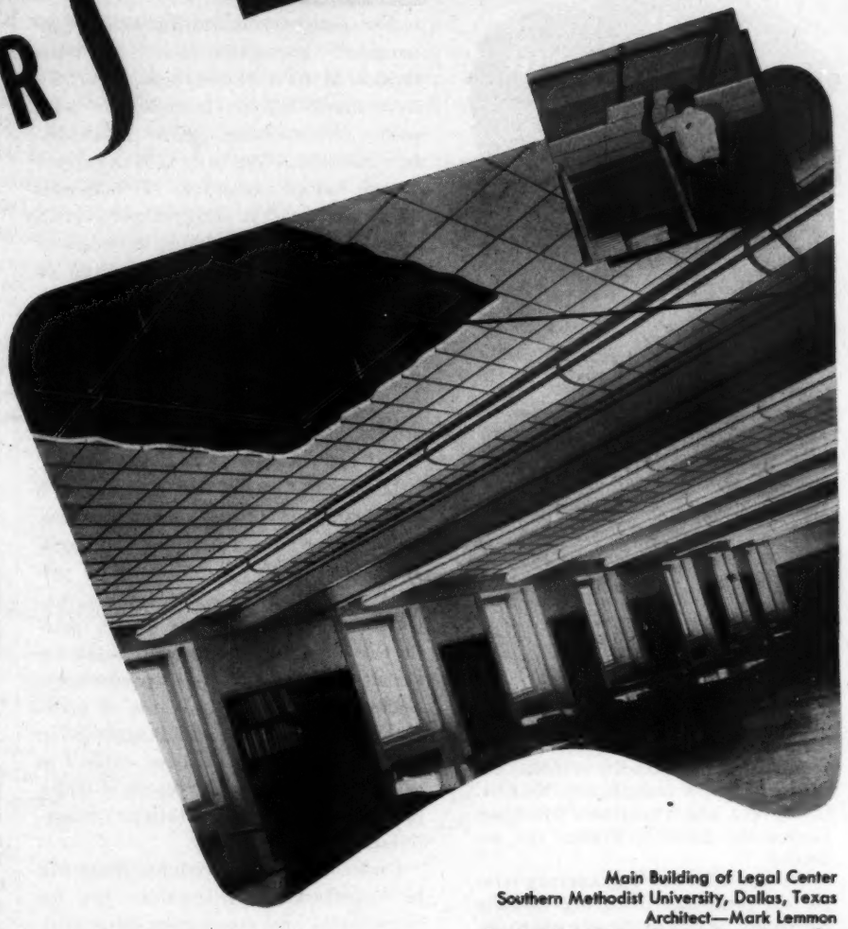
By actual test . . .

FASTER
EASIER
TRUER

Securitee SYSTEMS



FASTER . . By actual test acoustical ceiling units can be installed quicker on Securitee Systems

EASIER . . By actual test acoustical ceiling units can be installed with less effort on Securitee Systems—reducing costs.

TRUER . . By actual tests acoustical ceiling units square up better over large areas and make possible a truer and more level ceiling when applied on Securitee Systems

Main Building of Legal Center
Southern Methodist University, Dallas, Texas
Architect—Mark Lemmon
General Contractor—Henger Construction Co.
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In addition, Securitee Systems allow easy access to piping or wiring, assure structural permanence and lasting safety by giving proper full length tee support to tile units at all times.

Learn more about this low cost efficient method, contact your local acoustical applicator or write direct.

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Please send Standby Folder.

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ADDRESS_____

CITY_____ STATE_____

BUILDING CONTROLS

(*Continued from page 256*)

ample, where 1800 lb of steel is permitted for the one-family dwelling, the two-family unit of similar specification would get twice as much steel in poundage minus approximately five per cent. Relatively less material is required as the multiple dwelling units increase in number, NPA said it was advised.

New Definition of Starts

The actions constituting commencement of construction have been redefined in M-4A to eliminate site clearance as a qualification. Henceforth, "commence construction" means to incorporate into a building, structure or project a substantial quantity of materials which are to be an integral and permanent part of such building, structure or project (for example, the pouring or placing of footings or other foundations). Fabrication, production, or processing of prefabricated buildings, building materials, building equipment, or personal property to be installed does not constitute commencement of construction. Those are the words of the new M-4A.

Direction 1 to CMP Regulation 6 states that a prime contractor may begin construction and use the self-authorization procedure to obtain priority assistance for delivery of his materials and products in the fourth quarter without submitting an application on Form CMP-4C, if total requirements (including material for Class A products) do not exceed amounts specified in Schedule 1. He is, of course, subject in this procedure to all provisions of Order M-4A dealing with limitations on materials use and products.

Under the new procedures there will be "open-end" construction only for recreational and amusement type projects that do not consume quantities of steel, aluminum or copper. But these will get no assistance from the CMP program.

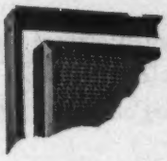
Some Deferments Expected

It is not expected that any going construction previously authorized will be halted. The objective, as outlined by NPA officials, is to spread the limited supplies of controlled materials as broadly as possible with military, Atomic

(*Continued on page 260*)

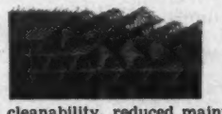
FAR-AIR* FILTERS

are unequalled in Quality, Construction and Performance



16 gauge filter and holding frames assure well-aligned, rigid filter banks. Interlocking holding frames are easy to install and the rugged construction prevents distortion. Felt liners effectively prevent air by-pass.

Reinforcing rods drilled through the media insure rigidity and add to service life.



Herringbone-crimp media design assures dependable higher performance, larger dirt holding capacity, lower pressure loss, easier cleanability, reduced maintenance costs. Media is packed firmly and evenly in the frame resulting in even density throughout the filter and assuring uniform high efficiency over the entire filter area.

You can be sure of a high performance air cleaning job when you specify Far-Air Filters. Precision engineering plus quality construction to rigid specifications assure *uniform* performance. Available in a wide range of types and sizes for dirt, lint, grease, entrained water, paint, ink, and many other air filtering applications. Contact your local representative or write direct to Farr Company, P. O. Box 10187, Airport Station, Los Angeles 45, California.

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Manufacturing Engineers

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Control Equipment Co., Ltd., Montreal

WALLS LIKE CLOTHING... PUT ON IN LAYERS... *Quick!*

You can have walls and roof of Galbestos metal—fire—corrosion—and shatter-resisting, but above all—fast up!

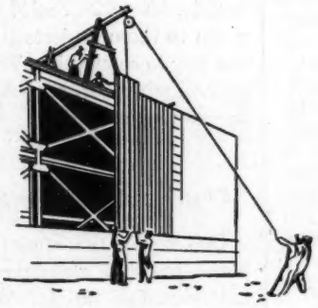
Galbestos metal is Robertson's highly successful protected sheet steel. You can have a wall of just Galbestos on steel frame, or insulated; or Galbestos G-Panel; or Q-Panel. Galbestos metal has been successfully used all over the world on thousands of buildings—industrial, commercial, laboratory and administration; architecturally well designed, in maroon or black or aluminum or in combinations of these colors. Galbestos metal walls are maintenance-free. But above all, Galbestos metal can be erected by the Top-Speed Fastening method quicker than any other type of wall.

Galbestos metal is a proved material—and perfect for your mobilization requirements. Speed fits it for immediate construction; durability and attractive appearance recommend it for whenever your business returns to post-mobilization conditions.

THIS IS GALBESTOS METAL **A steel sheet to which asbestos felt is metallically bonded. The felt is then impregnated with asphalt and waterproofed. Tested and approved by Underwriters' Laboratories, Inc., Chicago, and by the Associated Factory Mutual Fire Ins. Co., of Boston.**

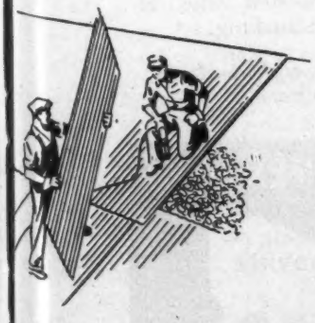
TOP-SPEED METHOD

The Top-Speed Fastening method is done entirely from the outside. It eliminates interior hanging scaffolds. Consequently, this enables a workman to place, safely, twice as much material in the same time as with the old method.



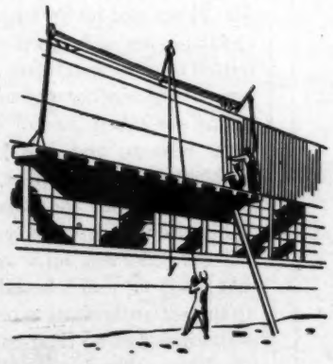
Q-PANELS

Famous Robertson Q-Panels can be surfaced with Galbestos. A Galbestos metal Q-Panel is factory-fabricated; steel inside, insulation and Galbestos outside. Available 2′ wide, in lengths up to 12′, lightweight, only 3¼″ thick, but superior in insulation value to a 12″ masonry wall with furred plaster. A small crew can erect a Q-Panel fast—50 sq. ft. in nine minutes.



TOP-SPEED INSULATION

Top-Speed Insulation is a Robertson method of applying insulation entirely from the outside. It halves the construction time.



G-PANELS

G-Panels are factory engineered but field assembled. Interior steel, then insulation, then Galbestos metal. They are extremely successful for economical, yet attractive, industrial, and commercial structures, where insulation is a requirement. You get a tight, maintenance-free wall, lightweight, thin, durable and good-looking.

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2. Top-Speed Fastening
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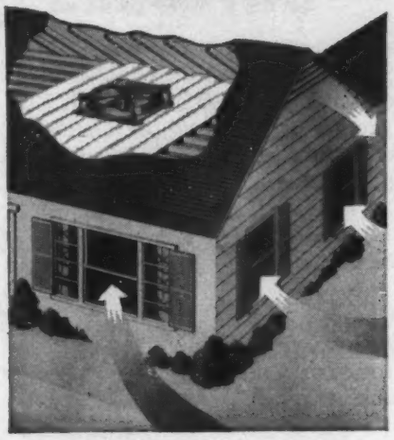
LOW-COST HOME COOLING IS HERE!



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No investment can give home owners as much comfort and pleasure as a Hunter Attic Fan. This modern convenience is now being used in thousands of houses and apartments throughout the nation. Low in initial cost and with no upkeep expense, the Hunter Attic Fan is practical for homes in all price ranges.

Installation of Hunter's new, compact *package* fan is simple and inexpensive. Fan, motor, suction box and shutter are all in one unit that requires only a ceiling opening in hallway and 18" clearance in attic. Four models, ranging from 4750 CFM to 9700 CFM, to fit any home size and climate. Quiet, powerful, dependable. Manufactured by Hunter, exclusive fan makers for 65 years.

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Hunter Package Attic Fans

On Display at NAHB Show

BUILDING CONTROLS

(*Continued from page 258*)

Energy Commission, and essential non-military projects supplied first. The very limited remainder of the supply can then be directed into other construction as CMP authorities determine.

A certain number of applications naturally will have to be deferred. Some will not be approved until the first quarter of 1952, many not even then. Those handling the program see no point in allowing only a portion of the materials needed to complete any one job. They said applicants will receive either enough materials to finish the single project applied for or will get no allotments at all. Officials are determined to avoid any large amount of unfinished work that would require more materials for completion.

Walter Skuce, head man for CMP, refused to name specific types of construction that might be given top preference in the processing of applications. He did say, however, that preference would be given to those jobs most closely related to the defense effort. Leading the list in terms of priority for processing are plants and factories for direct defense programs. Second in priority are projects that further aid the expansion of basic metals; after that consideration is being given to those projects that are well on the way to completion. These will be the general criteria to guide the handling of approvals and denials.

"Phasing Out" the Supply

One explanation stated that the plan here is to tie the restrictions to the available materials supply. "We will phase out the impact of the building program to fit the known supply," it was said. Mr. Skuce said he would not state what specific types of projects would be permitted to go forward after essential military, atomic energy and supporting programs are taken care of until applications were in and had been weighed against available supplies of materials. But he promised the impact would be "phased out in an orderly way."

Some observers have expressed fear that delay in mill scheduling will slow up the self-authorization program. CMP authorities had no clear-cut opinions on this. They refused to divulge how much steel and copper had been set aside for

(*Continued on page 262*)

When planning the finish of your walls and ceilings, you, no doubt, consider lime plaster finish.

No good, or even economical, substitute for this time-honored material has ever been found.

Monolithic, smooth and clean, it lends itself to any decorative treatment. It is durable, vermin and rodent proof, fire safe, and accoustically right.

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Ohio White Finish and *Hawk Spread* are our identical brands of hydrated finishing lime. *Ohio White Autoclaved Finish* meets the new Federal Specifications for finishing hydrated lime. It requires no soaking.

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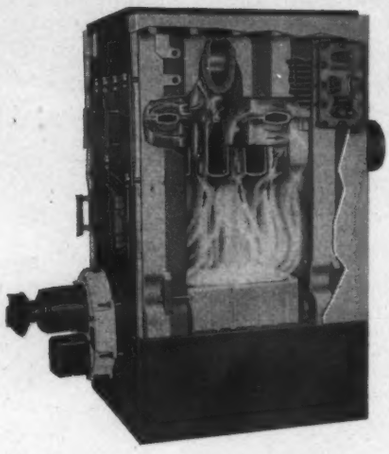

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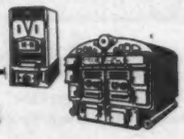

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BUILDING CONTROLS

(*Continued from page 260*)

the self-authorization portion of the scheme in the fourth quarter.

It was denied that there was any intention in setting the cutoff points to control the number of housing units that might be constructed over a specified period. The controlling factor here, it was said, and the only controlling factor, would be the credit regulations. It was implied that the decisions on allowed amounts of materials for housing was based to a degree on the volume anticipated under the credit curbs of Regulation X.

Function of Claimant Agencies

In any event, builders will have to look to the claimant agencies for their direct contact in initiating most programs. Housing matters will be handled by the Housing and Home Finance Agency, either through its Federal Housing Administration field offices or by HHFA in Washington, depending on the type of dwelling construction for which permission is sought if quantities above maximum self-authorization totals are required.

Similarly, U. S. Public Health Service will handle applications for hospital construction, and the U. S. Office of Education those for the building of schools. Where necessary, application for projects of this type are made on Form CMP-4C. NPA has issued implicit instructions on the filing of these. U. S. Bureau of Public Roads handles highway construction; Civil Aeronautics Administration, airports; etc.

Where Does it Lead?

The new system of construction controls means that the federal government holds its finger on the pulse of the construction industry closely indeed. In the final analysis, however it is scrutinized, National Production Authority and its parent agency, Defense Production Administration (both now headed by Manly Fleischmann), now pull all the strings and can more easily direct the volume of construction in just about every field.

In effect, the order M-4A has placed a temporary freeze on start of any new non-defense construction; at least until

(*Continued on page 264*)

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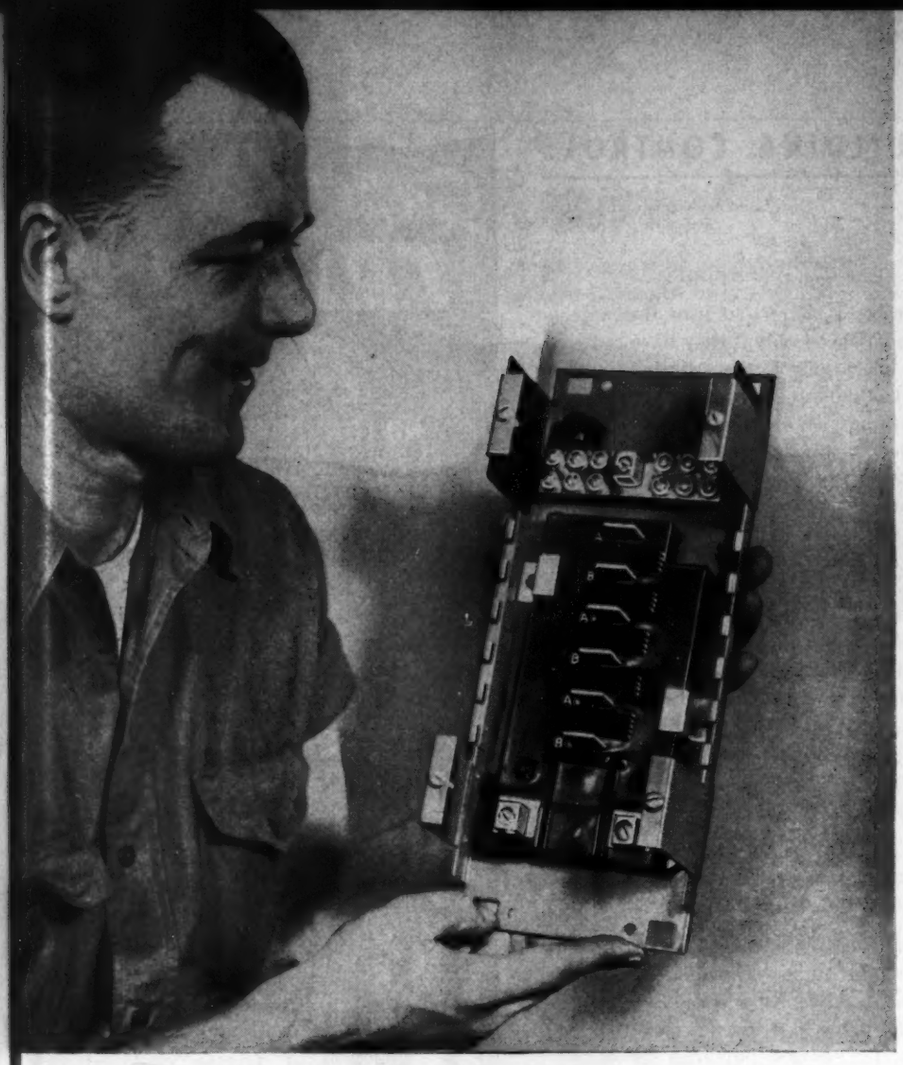

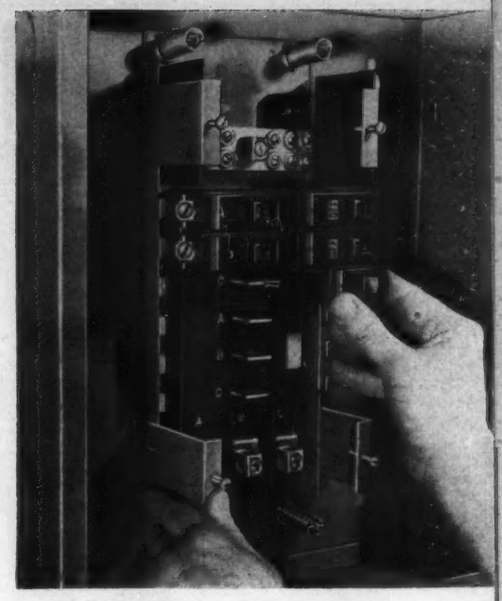

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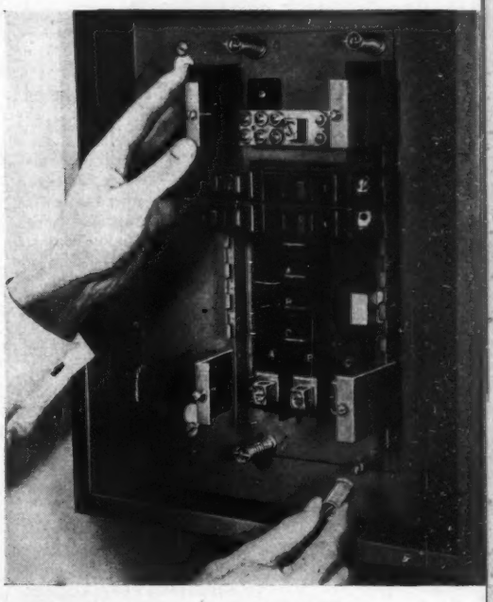
Other Plastisol advantages making it superior to all other types of insulation for this purpose include its ability to resist acid and alkali, high temperatures (not harmed at 212 F), tracking and carbonizing. It will not shrink or become brittle, even at minus 30 F.

Trumbull's Plastisol base is Underwriters' Laboratories, Inc. approved and endorsed by the Electrical Council.



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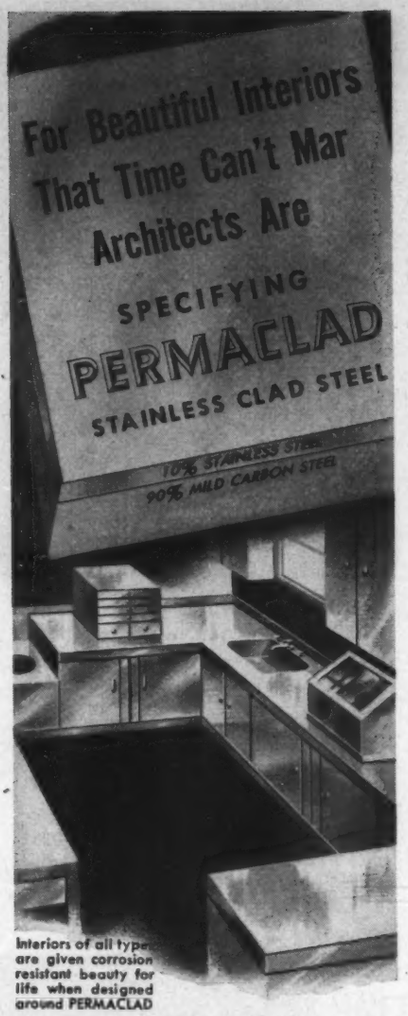

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BUILDING CONTROLS

(*Continued from page 262*)

October 1. After that time the projects can go ahead only if they have received an allocation of required steel, copper and aluminum from CMP. NPA officials take the view that the net effect of the order is to lighten considerably the problems of the small builder through removal of many restraints of the former permit system. On the other hand it can be expected that a sizeable number of applications will have to be deferred now and through the early months of 1952 to spread available amounts of steel, copper and aluminum. Government officials are less optimistic about the supply of aluminum than the other two metals. They say there just wasn't any to give to the self-authorization phase of housing construction.

The Road to M-4A

NPA cited these earlier steps leading up to the August decisions.

1. As originally adopted October 26, 1950, Order M-4 banned only the construction of new buildings for amusement, recreational and entertainment purposes.

2. In January 1951, NPA amended the construction order to establish a system under which virtually all new private commercial construction was made subject to specific NPA authorization. It was said then that commercial construction generally would be authorized only when it (a) furthered the defense effort, (b) was essential to public health, welfare or safety, or (c) would alleviate or prevent hardship to a particular community.

3. On May 3, NPA amended the construction order further to require authorization for construction of large apartment houses, luxury residences and all industrial facilities and public and private construction projects requiring use of more than 25 tons of steel.

4. On June 7, NPA delegated authority to eight government agencies to process construction applications on projects within their jurisdictions.

5. On June 21, NPA issued CMP Regulation 6. This brought construction under provisions of the Controlled Materials Plan on a permissive basis.

6. Minor amendments to M-4 followed on July 3.

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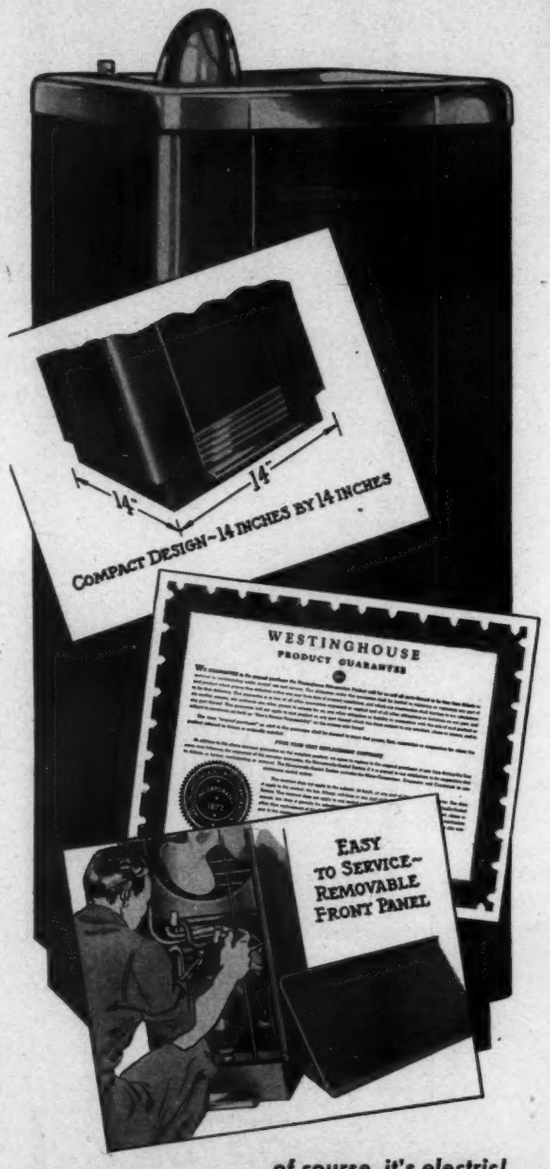

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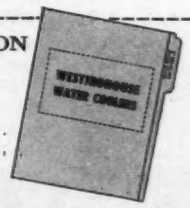

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REQUIRED READING

(Reviews continued from page 32)

NEW EDITIONS

HOSPITALS

Hospitals. Integrated Design. By Isadore Rosenfield. Reinhold Publishing Co. (330 West 42nd St., New York 18, N. Y.), 2nd Ed., 1951. 9 by 12 in. 398 pp., illus. $15.00.

To integrate the latest information on hospital design with the latest information on hospital needs and related facilities, this edition includes four new chapters on special hospitals, a chapter on "Details and Finishes," and much new material on various subjects. Of the more than 500 illustrations, over half are new. Edited by William W. Atkin and designed by Stamo Papadaki, the book comes to meet the continually changing demands of the hospital.

BOOKS RECEIVED

A Selected Bibliography on City and Regional Planning. By Samuel Spielvogel. The Scarecrow Press, Washington — A useful selection of titles for planning students and professional city planners, designed for use where adequate classification and cataloging are not readily available.

Urban Sociology and The Emerging Atomic Megalopolis. By Jesse Walter Dees, Jr. Ann Arbor Publishers, Ann Arbor — "An introductory text and case book in the field of urban society and social pathology," with emphasis on practical or applied sociological problems, concomitant with the findings of urban and regional planning experts.

Low Cost Housing in South and South-East Asia. Report of Mission of Experts, 22 November, 1950 – 23 January, 1951. United Nations Secretariat, New York — Extensive housing report on conditions in and recommendations for Pakistan, Malaya, Thailand, Republic of Indonesia, Philippines.

(Continued on page 268)

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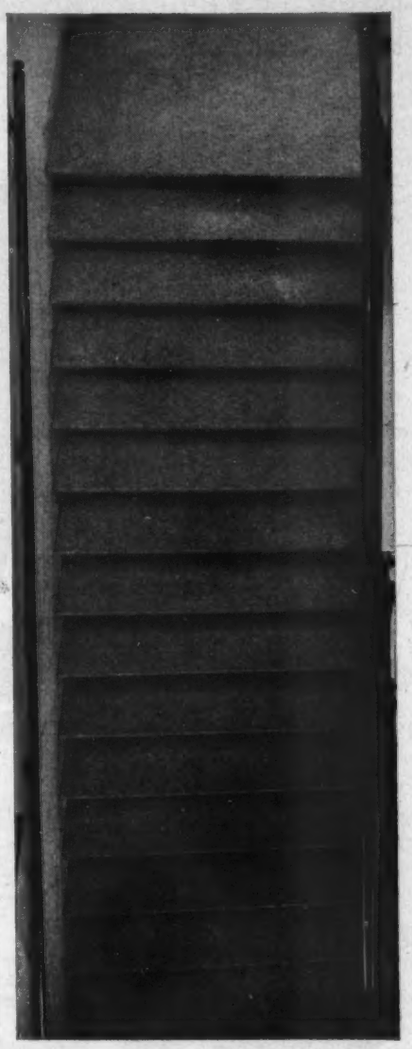

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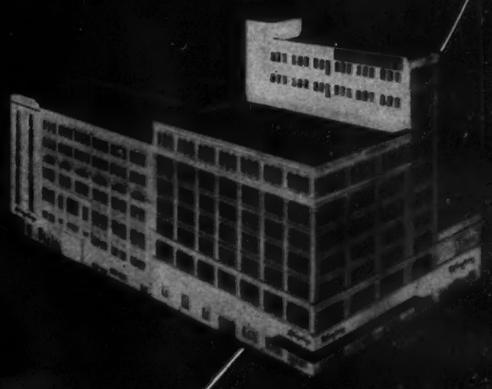

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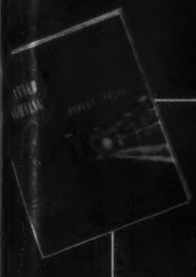

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REQUIRED READING

(*Continued from page 266*)

Negro Housing in the Miami Area. By Reinhold P. Wolff and David K. Gillogly. Bureau of Business and Economic Research. University of Miami, Coral Gables — The first of an Area Development series surveys the effects of the postwar building boom, with characteristics of new housing, economics and social conditions and implications included.

Philadelphia Forging Ahead . . . Office of the Mayor, Philadelphia — A report from the mayor to the citizens of Philadelphia — 1950 — many phases of Philadelphia's progress in public works, public health and safety, city planning transit, public welfare, recreation facilities, etc.

Color Slides of Painting and Other Fine Arts. Part 2. The Philadelphia Museum of Art, Philadelphia — Catalog of fine arts slides available on aspects of architecture, sculpture, painting, etc., from antiquity to the present in both East and West.

Wrought Iron Work from the Swiss School for Locksmiths at Basel. By Paul Artaria. Wepf & Co., Basel. — Craftsmanship and ornamentation: detailed drawings and photographs of grills, gates, doors, balustrades, knockers and vessels, with an introduction in German and English.

Simplified Mechanics and Strength of Materials. By Harry Parker. John Wiley & Sons, Inc., New York — An elementary text as well as a reference for those interested in mechanics and construction, with a detailed explanation of numerous illustrative examples related to problems encountered in practice.

Techniques of Plant Maintenance 1951. Clapp & Poliak, Inc., New York — Proceedings, including the text of all papers and discussions, of the technical sessions, sponsored by the American Society of Mechanical Engineers and the Society for the Advancement of Management, held concurrently with the Second Plant Maintenance Show, Cleveland, January, 1951.

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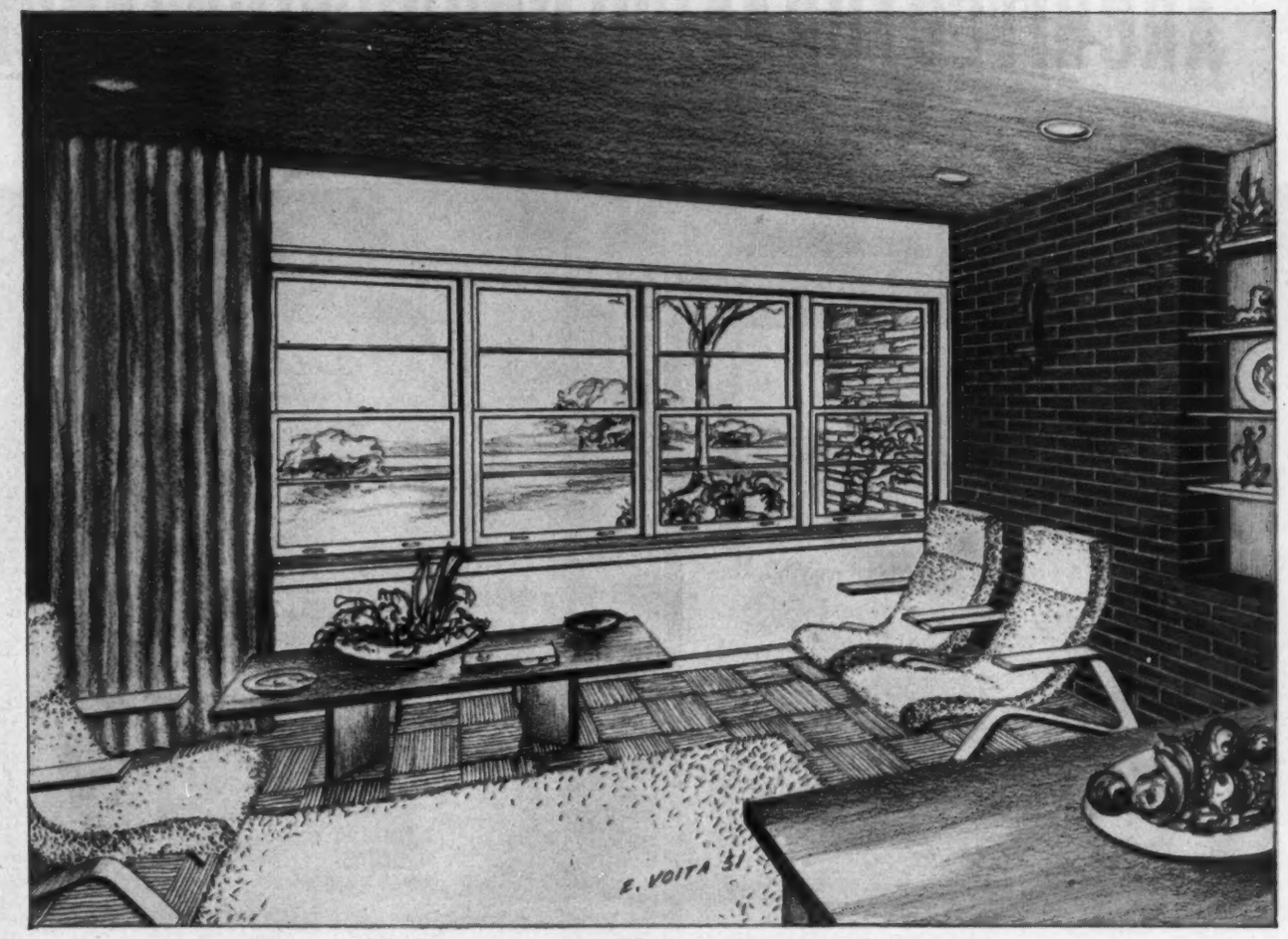

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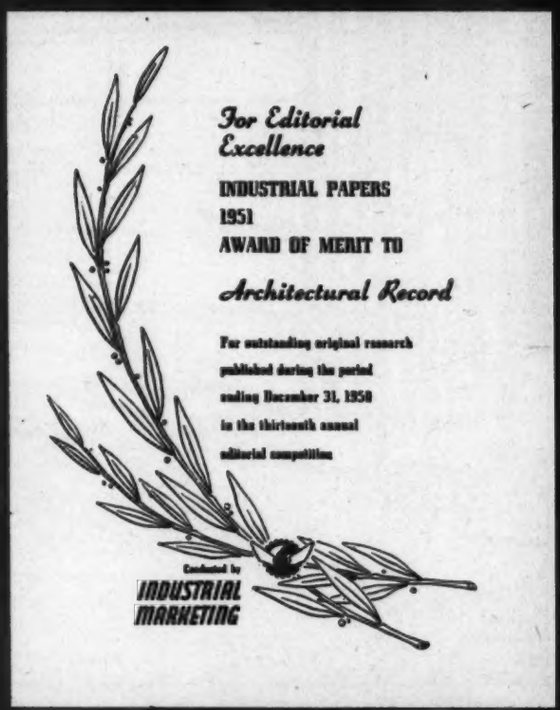
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Award of Merit for outstanding original research "Motels", published in the March 1950 issue.

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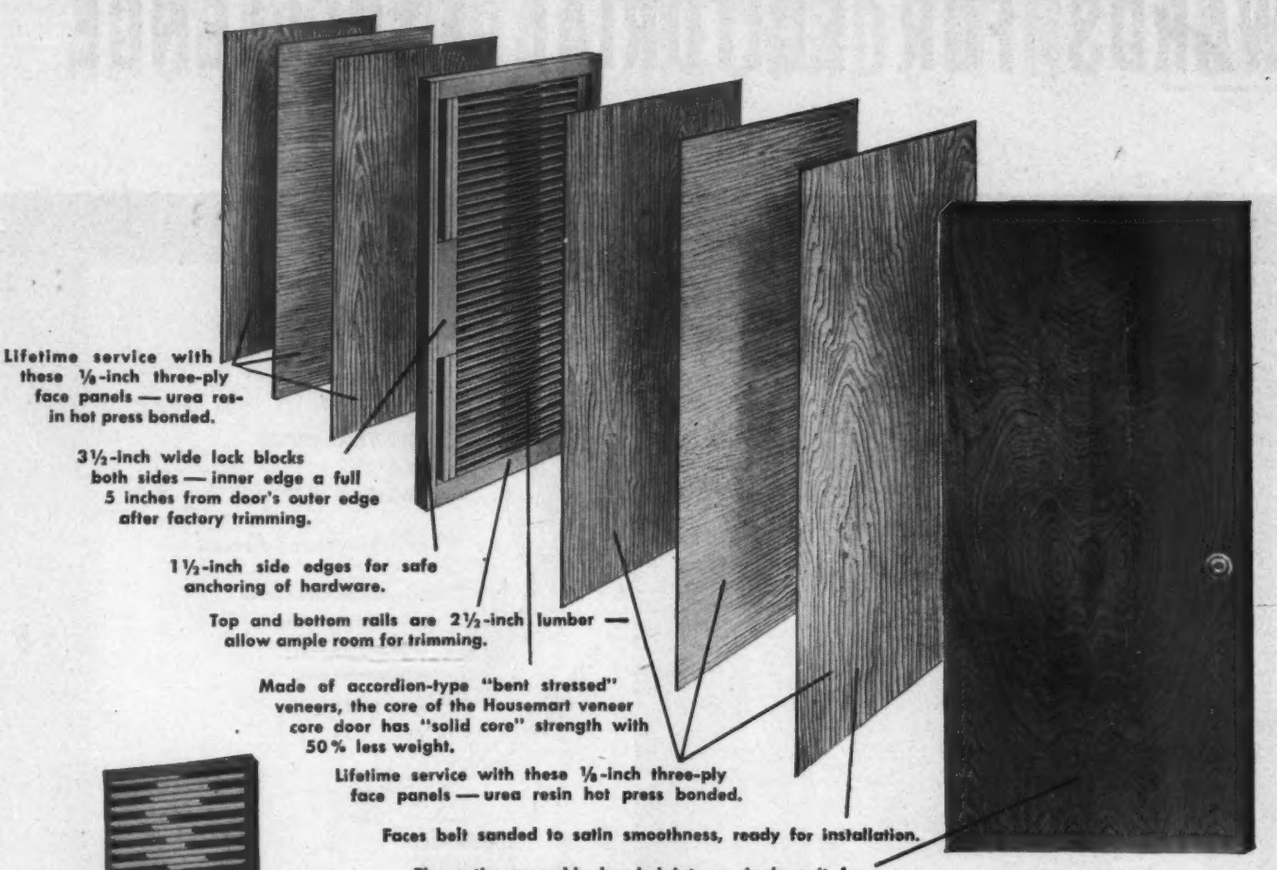
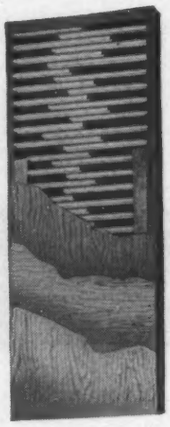
inside reasons why Roddiscraft housemart

light-weight flush doors provide enduring beauty at modest cost


Lifetime service with these ⅛-inch three-ply face panels — urea resin hot press bonded.
3½-inch wide lock blocks both sides — inner edge a full 5 inches from door's outer edge after factory trimming.
1½-inch side edges for safe anchoring of hardware.
Top and bottom rails are 2½-inch lumber — allow ample room for trimming.
Made of accordion-type "bent stressed" veneers, the core of the Housemart veneer core door has "solid core" strength with 50% less weight.
Lifetime service with these ⅛-inch three-ply face panels — urea resin hot press bonded.
Faces belt sanded to satin smoothness, ready for installation.
The entire assembly bonded into a single unit for great strength and durability.



Specially machined blocks fluted for light weight and spaced to give maximum strength form the core of the Housemart Fluted Block Core Door, otherwise construction is similar to the veneer core door. A blue dowel identifies the Fluted Block Core door while a red dowel identifies the Veneer Core door.

for today's trend in residential construction

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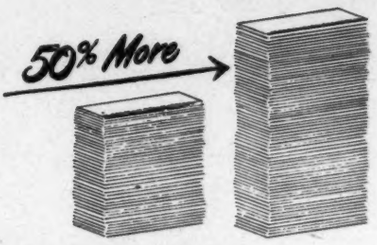

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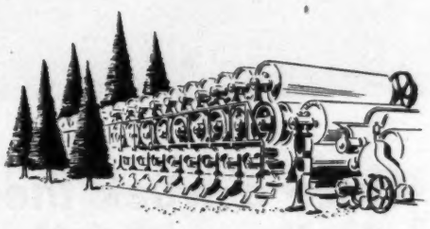

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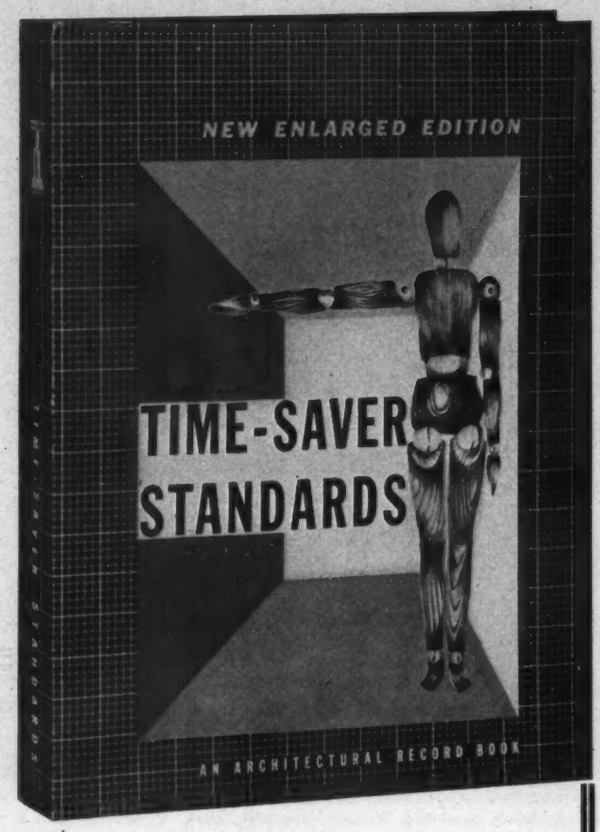

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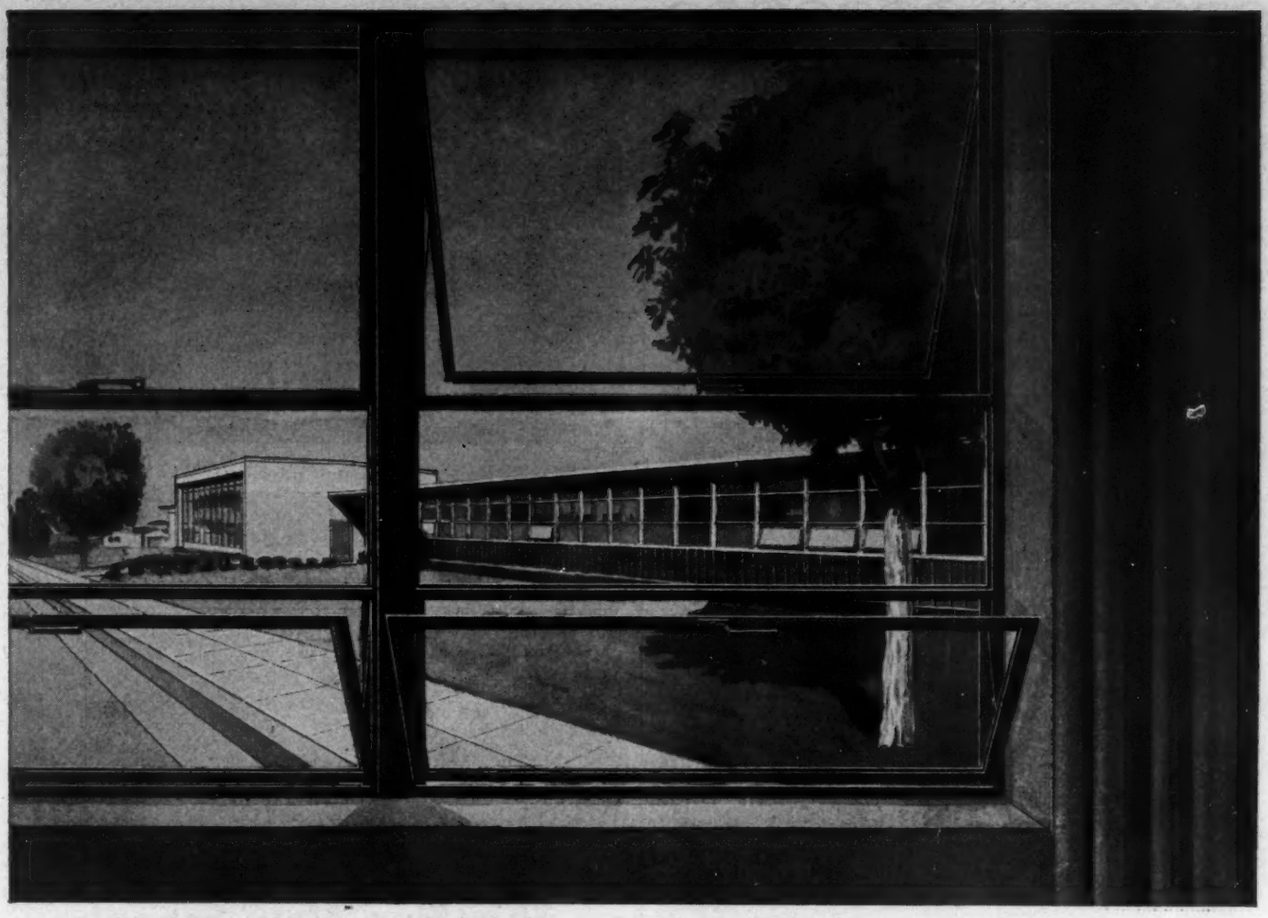

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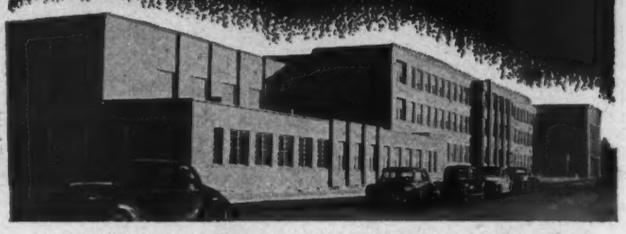

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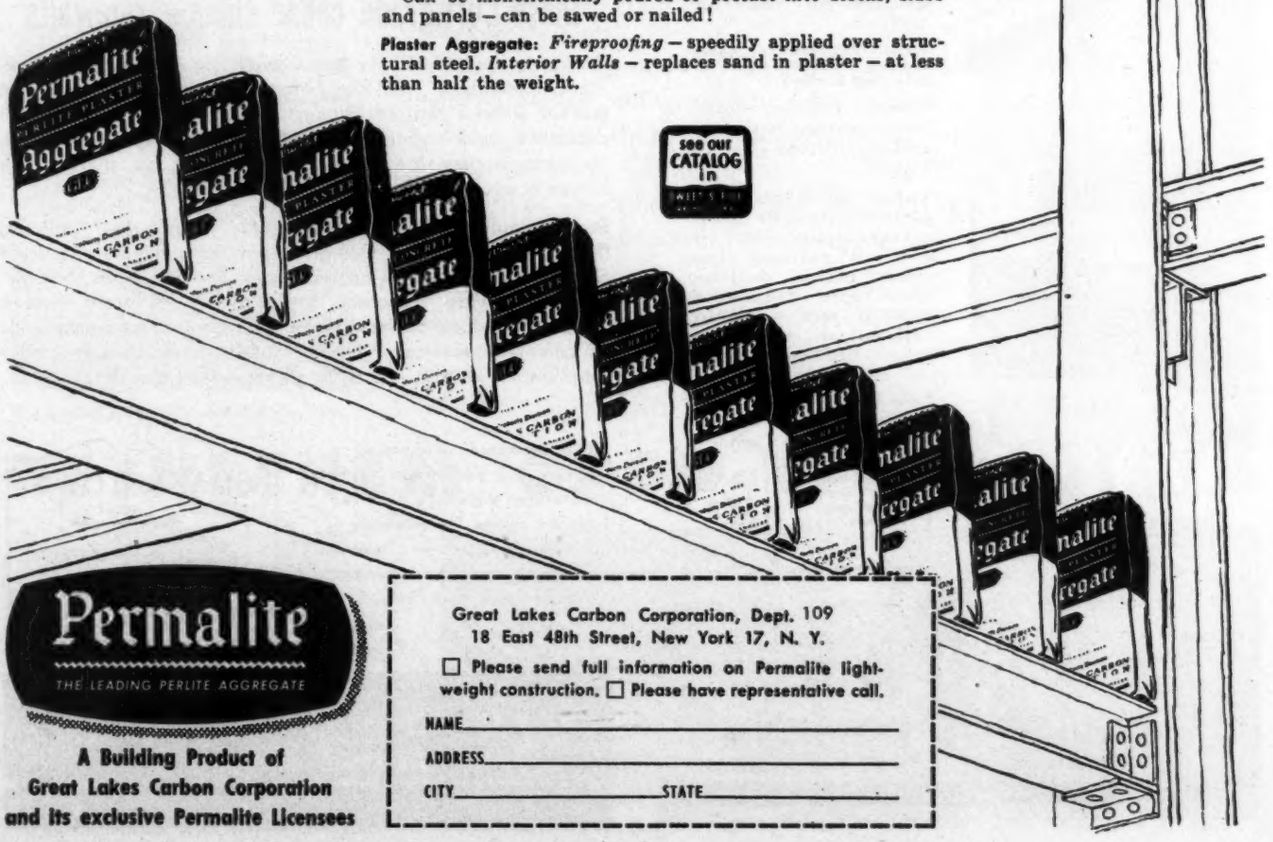

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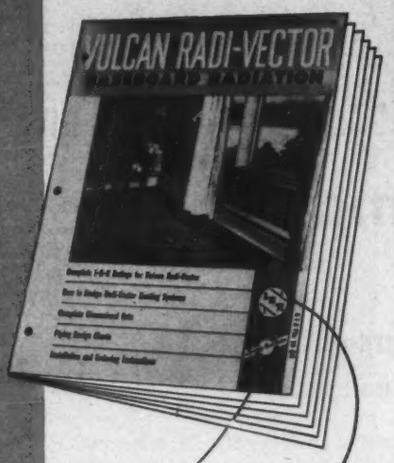

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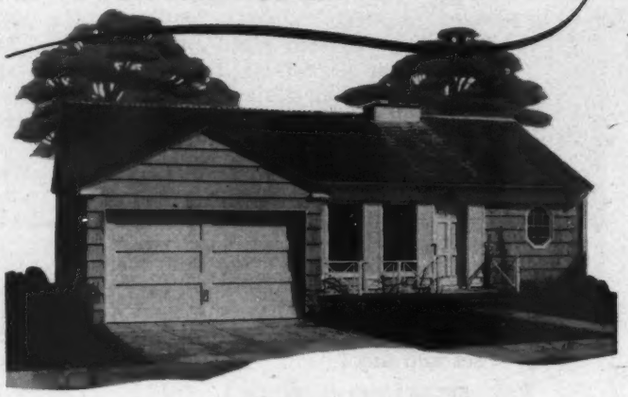

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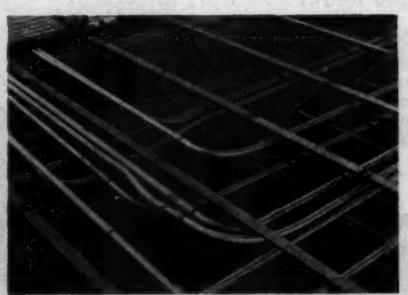

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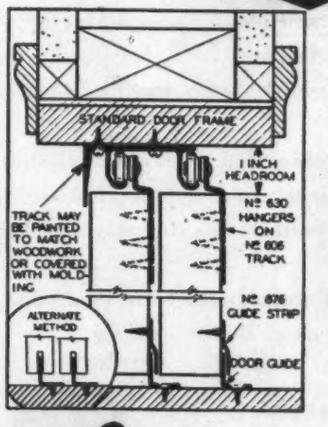
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TO INCREASE THE VALUE OF OFFICE SPACE...famous G-E Personal Weather Control cools and heats outside offices with 300 tenant-controlled room units. Each room occupant gets the weather he wants—without disturbing other rooms. These units are supplied with hot or chilled water according to season from the same plant that services the large-space units. Fresh air is supplied through space-saving, cost-cutting small-size ducts.

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Building value increases materially when you install G-E Air Conditioning. That is why G-E Systems are installed in 10 Sheraton Hotels...the prominent new 575 Madison Avenue Building in New York City...and other leading multi-room buildings all over the United States.

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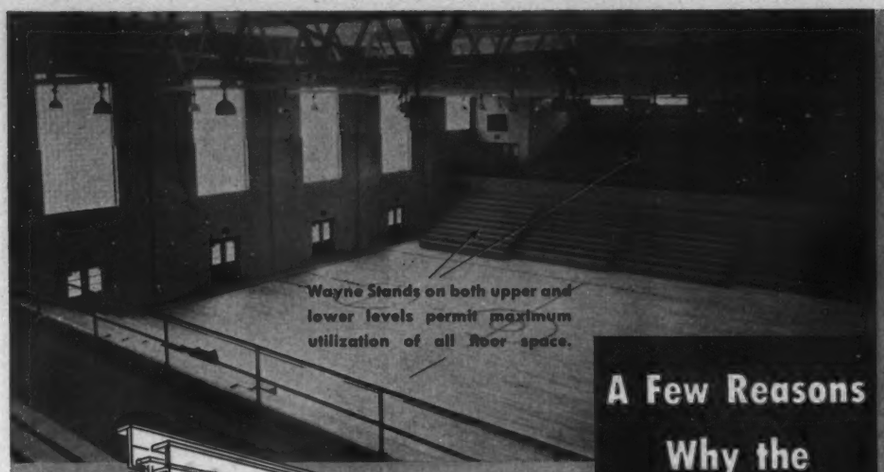
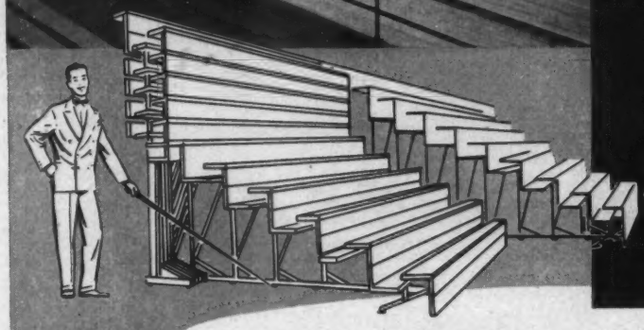


Wayne Stands on both upper and lower levels permit maximum utilization of all floor space.



A Few Reasons Why the Architect *Specified* Wayne

First he saw that Wayne Rolling Gymstands meant extra room for intramural sports . . . and maximum seating when game time was due.

Then he found that Wayne Rolling Gymstands could provide *upper* as well as lower level seating facilities . . . and, when used on balconies, could be modified by increased rise per row if necessary.

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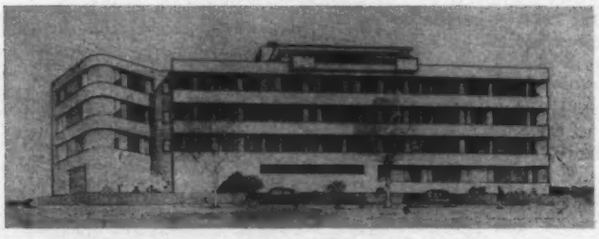

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Only a tiny, concealed cable supplies the necessary heat for this large, modern apartment house. It's safe, clean, electric heat featuring HEATSUM CABLE. Each room is individually controlled by thermostat, and has uniform temperature from wall-to-wall, floor-to-ceiling.

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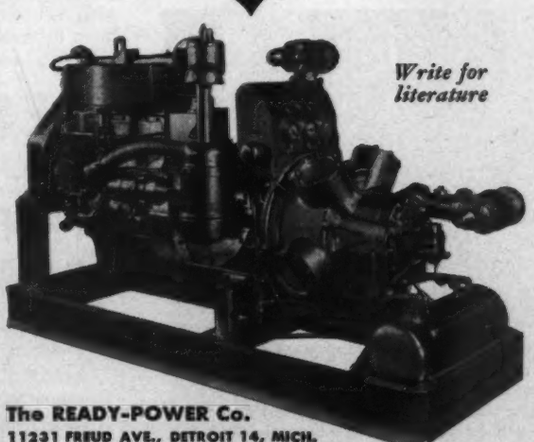

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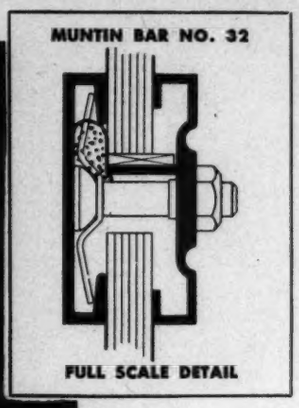

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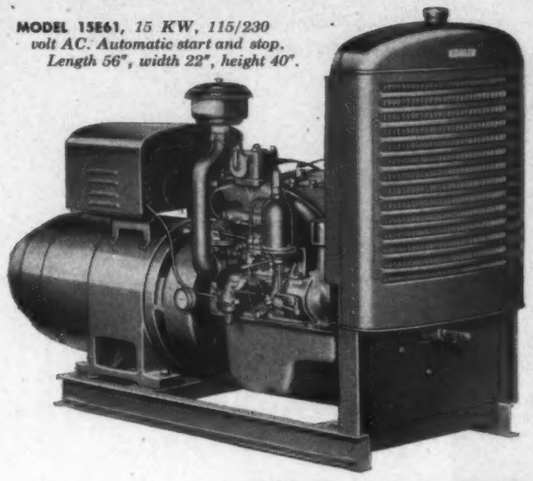

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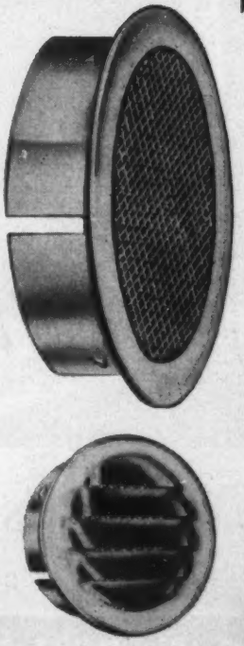
ROOM TO BREATHE



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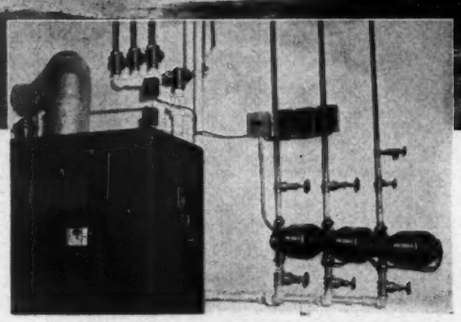

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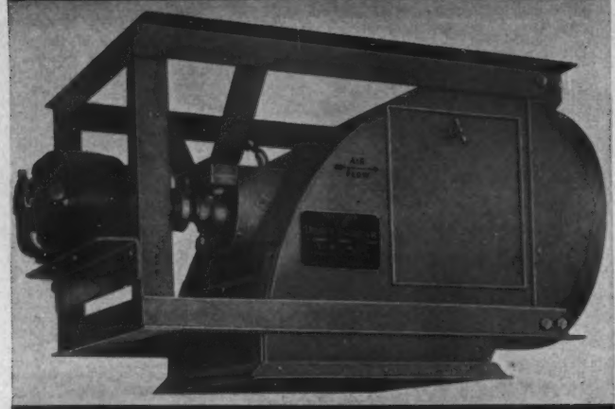
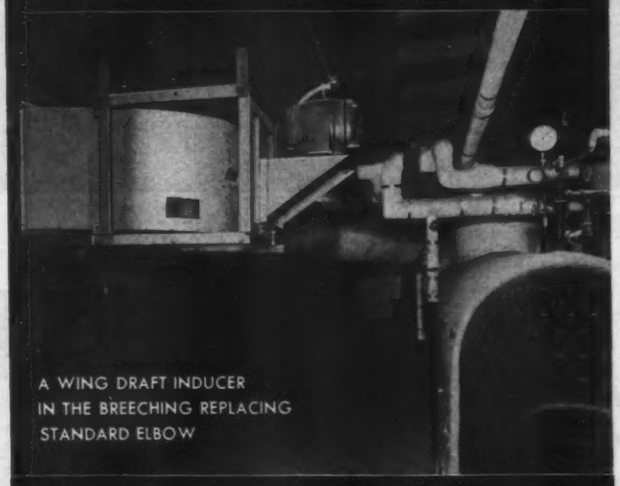


THIS IS A TYPICAL INSTALLATION



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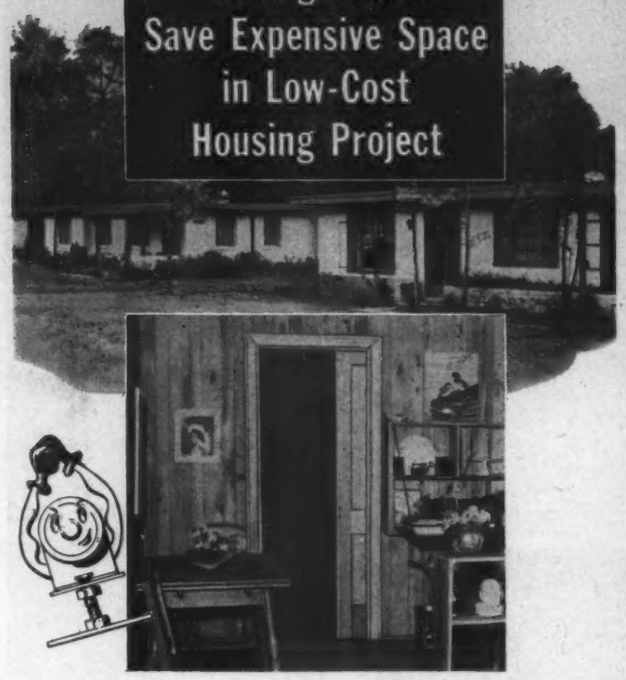

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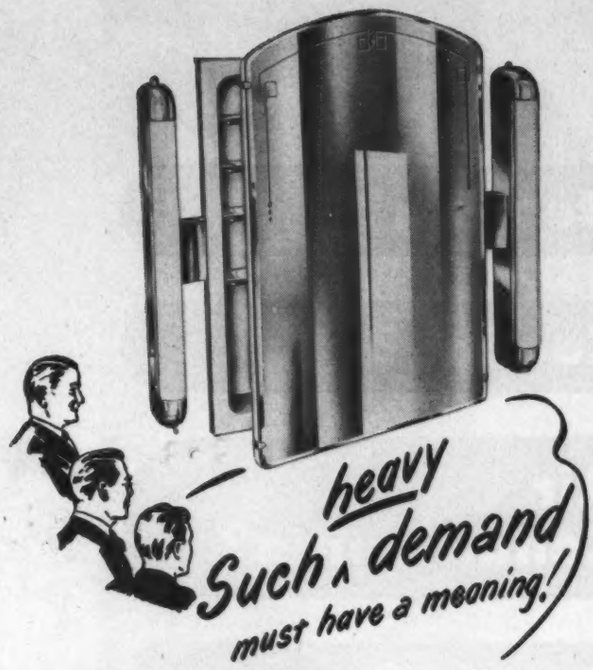

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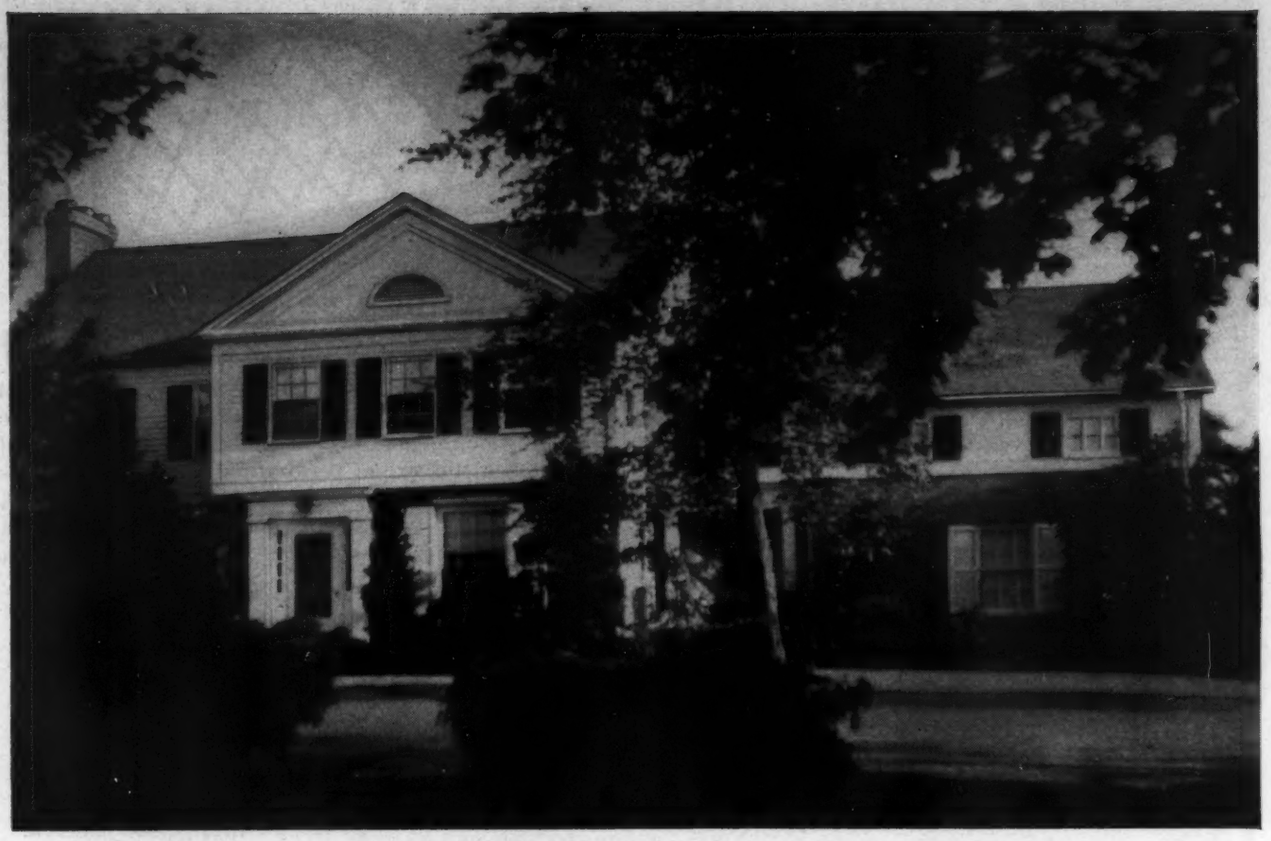

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says **GEORGE H. BURROWS,** *prominent Cleveland Architect*

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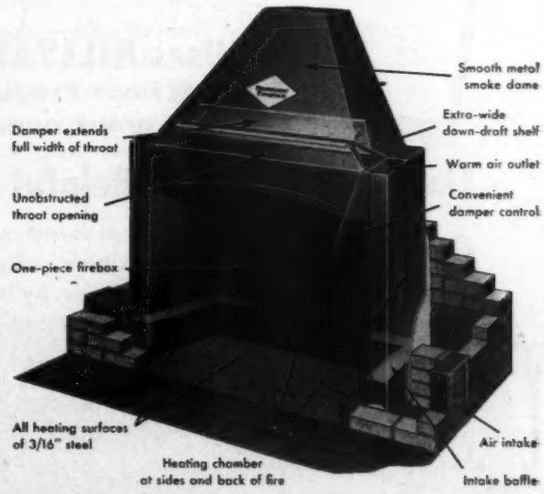

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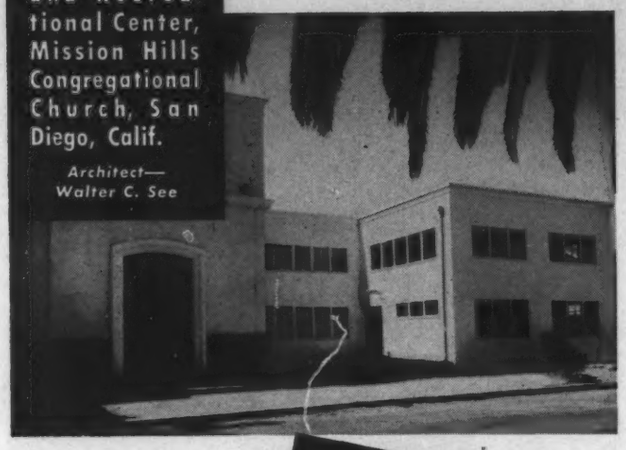
Newly completed Youth Eduction and Recreational Center, Mission Hills Congregational Church, San Diego, Calif.

Architect— Walter C. See



Building Committee Follows ARCHITECT'S ADVICE...

Mission Hills Congregational Church

March 29, 1950

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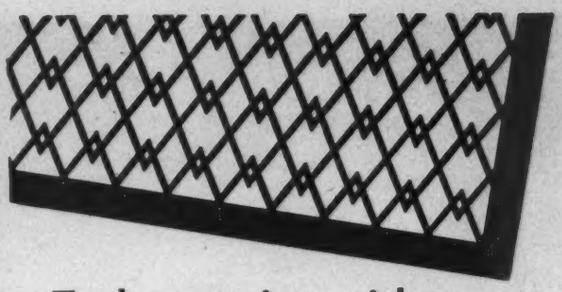

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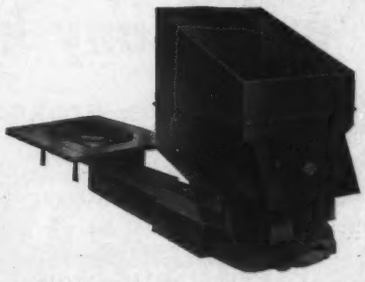

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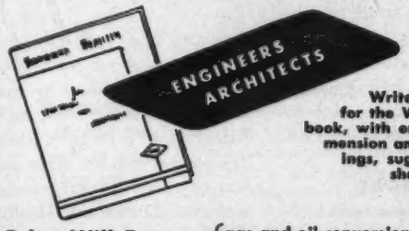

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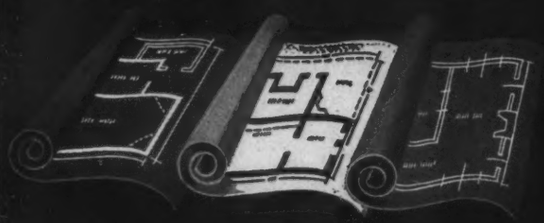

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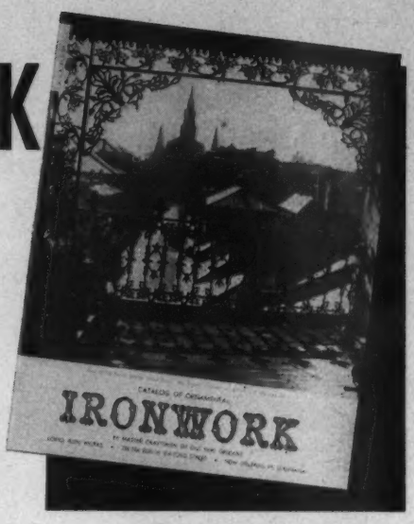

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Advertisement

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This 13-story project proves it can be done quickly and economically with self-contained Frigidaire units

LOCATION: Nashville, Tenn.
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Here's a problem that's bound to arise often as older buildings begin to feel the competition of postwar, air conditioned structures.

And the problem is this: (1) To air condition a multi-story building in which no previous provision for air conditioning has been made. (2) To do it while business goes on as usual in the building. (3) To do it at a cost that's in line with reasonable rental charges.

An ideal solution suggested by Frigidaire for this 13-story Nashville office building is a multi-unit system—using several self-contained Frigidaire air conditioners on each floor.

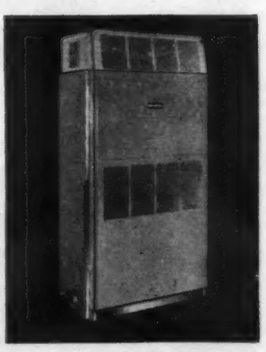
Besides providing a fast and economical answer, this Frigidaire plan has other advantages. Since the Frigidaire units are individually installed and need little duct work, there is no costly interruption of business. For the same reasons—if necessary—installation can easily be put on a floor-by-floor, "pay-as-you-go" basis.

But even more important than the installing is the end result—a system where the danger of breakdown is held to an absolute minimum; a system that's "zoned" by the individual controls on each unit; a system that can quickly be modified to meet changing conditions.

Call the Frigidaire Dealer, Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book. See Frigidaire catalogs in Sweets Files, or write Frigidaire Division, General Motors, Dayton 1, O. In Canada, Leaside (Toronto 17), Ont.

A total of 39 self-contained Frigidaire units air condition this 13-story office building from top to bottom. Water for the units is circulated through two cooling towers on the 12th story roof. Central "on-off" controls are located in the basement.

Three 5-ton units like the one in this anteroom are used to condition the 12th floor. Cooled air from the units is distributed to individual executive offices through insulated ducts placed in an attic space directly above the ceiling.



Available in both 3- and 5-ton sizes, these Frigidaire self-contained air conditioners can actually be employed to handle almost any air conditioning need. With the addition of optional heating coils, they provide year 'round service.

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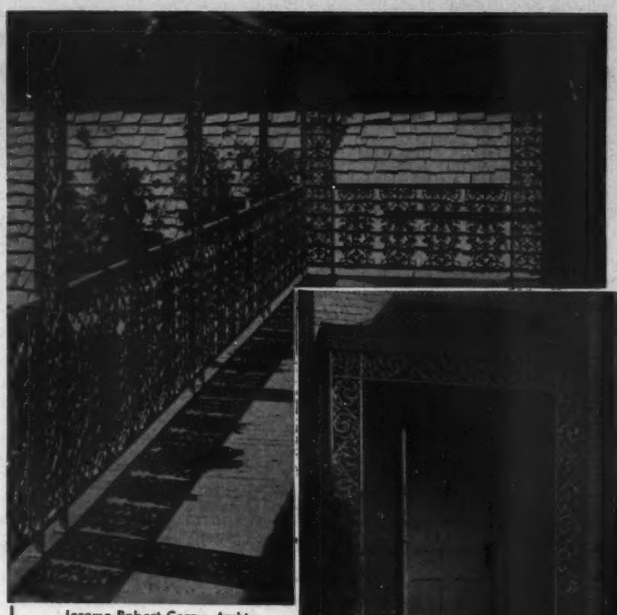

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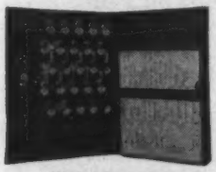

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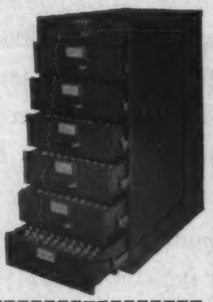

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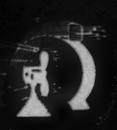

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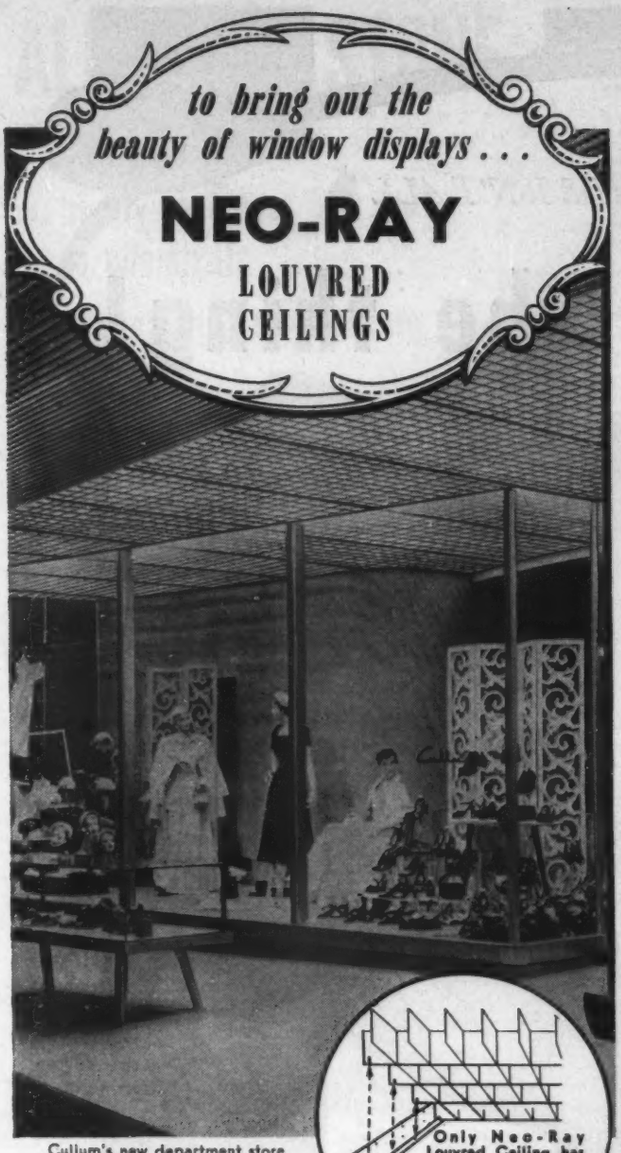

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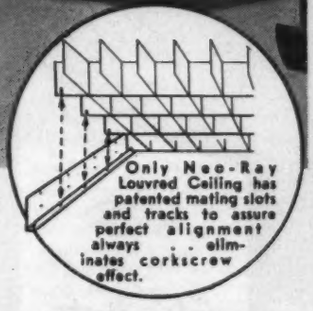
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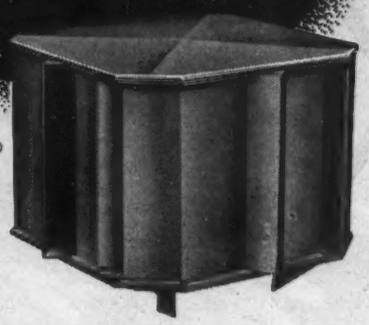

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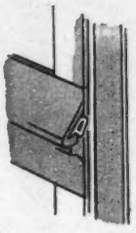

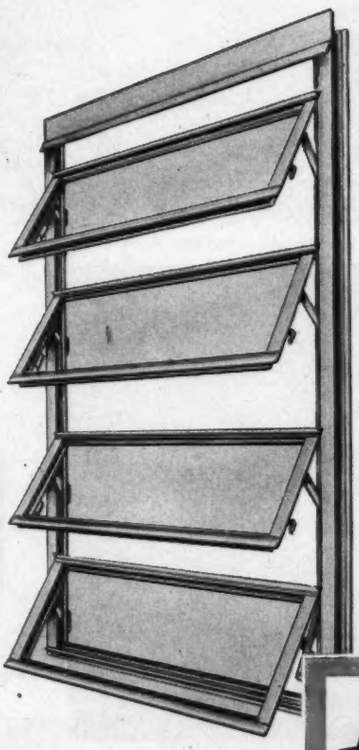

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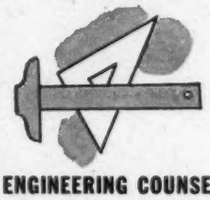

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This Magnificent New Structure features: An overall installation with approximately 700 #1035 3-lite, 40-watt Skylouvers that maintain 70 foot candle intensity.

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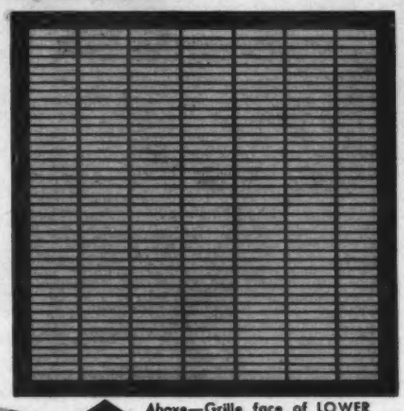
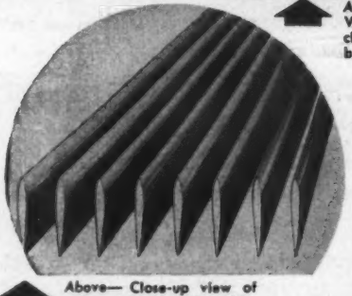
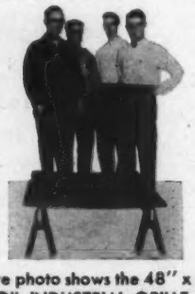


Above—Grille face of LOWER WALL, INDUSTRIAL GRILLE. Note close spacing of extra-strength blades (⅜" centers).



Above— Close-up view of volume control section. Note famous solid section AIRFOIL LOUVERS. Each blade is individually adjustable. CONCEALED LOUVER SUPPORT eliminates mullions and butted construction.



Above photo shows the 48" x 48" AIRFOIL INDUSTRIAL GRILLE supporting the combined weight of 4 Titus factory workers.

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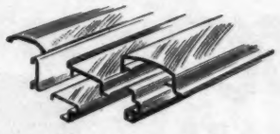

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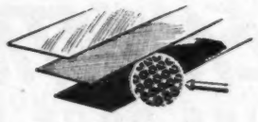

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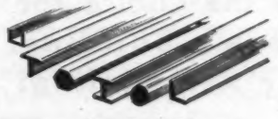

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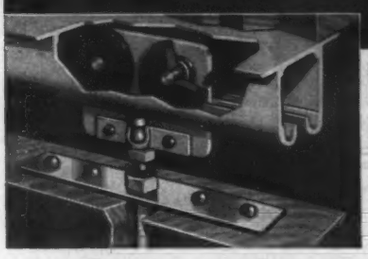

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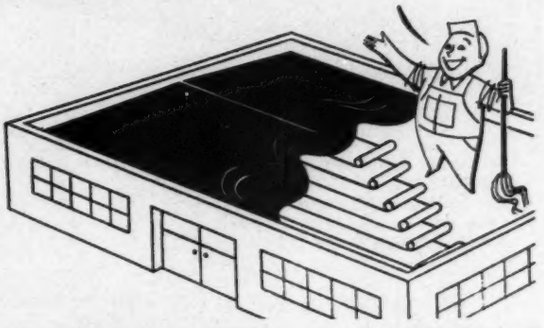

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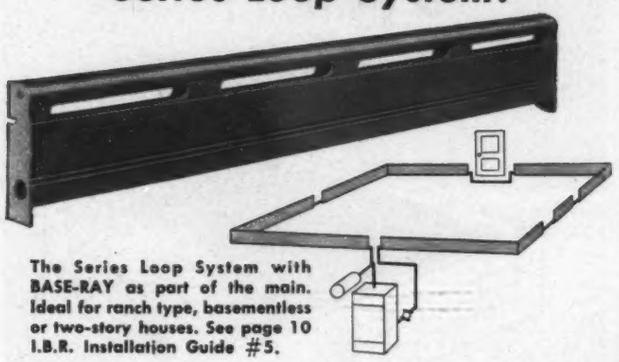

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***These figures compare a 1-pipe, forced circulation system with a Series Loop System in a 1-story basementless house.*

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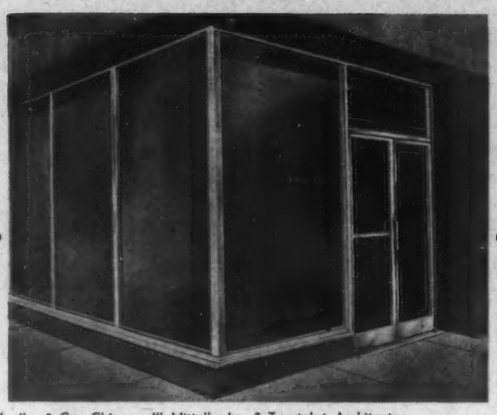

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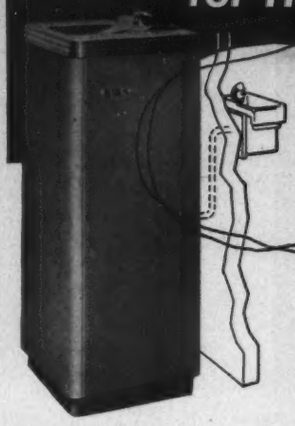

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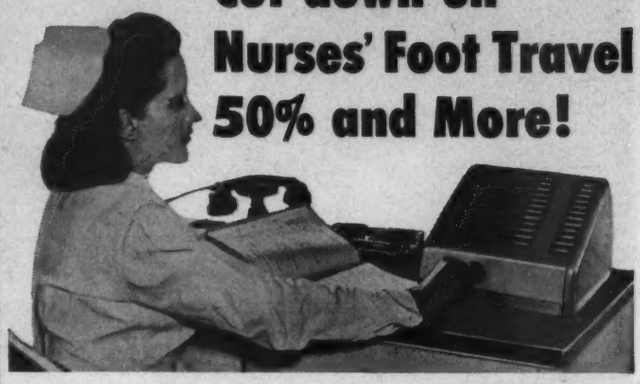

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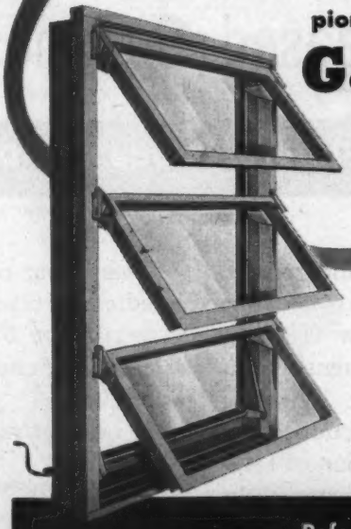

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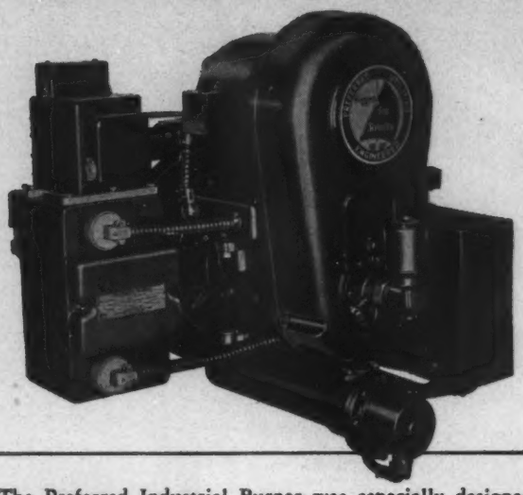

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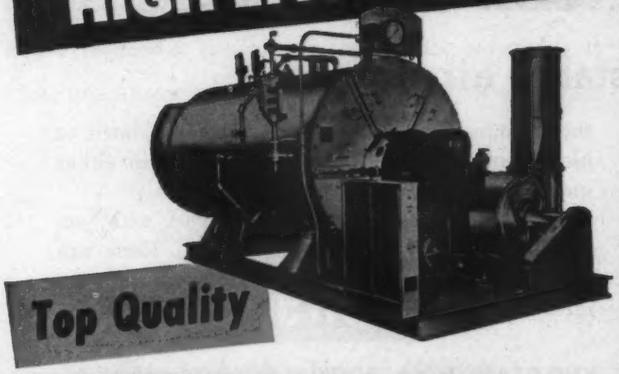

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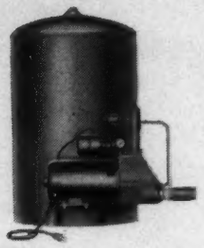

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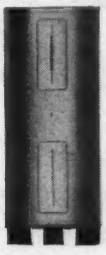

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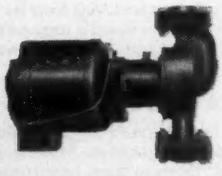

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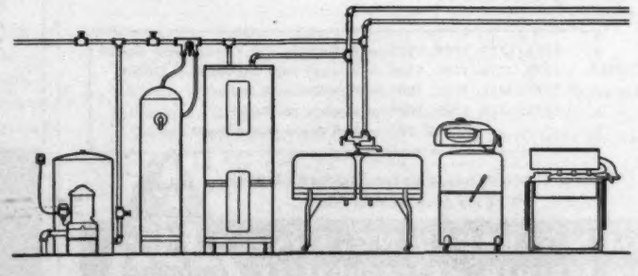

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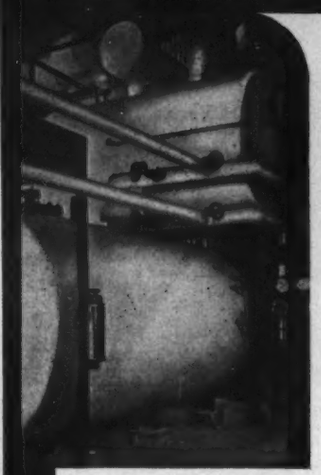

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(The Index to Advertising is now on page 6)

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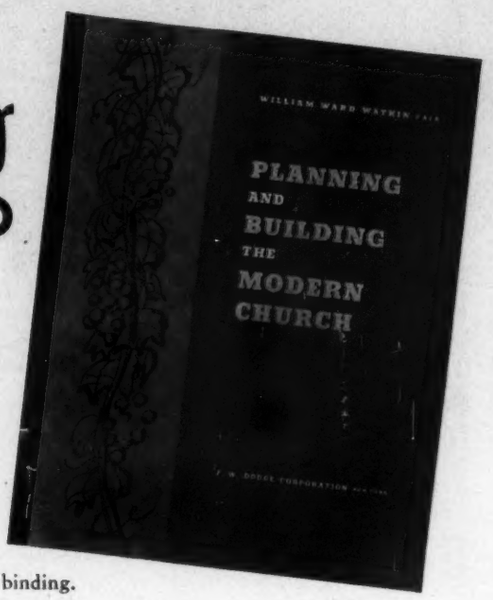

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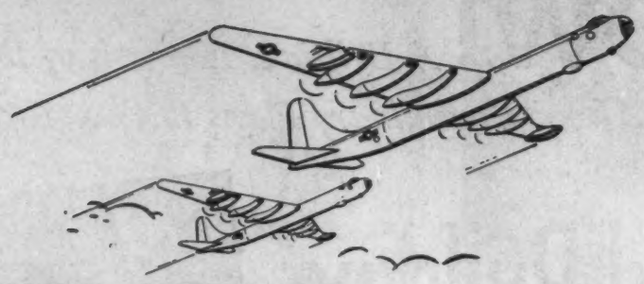

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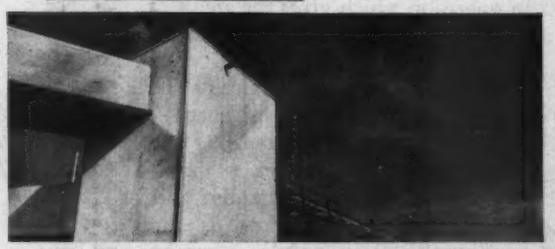

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